

# THE PROGRAMMER'S SHOP SUMMER CATALOG 1991

**NEW • RTPatch**

Automates upgrading  
any distributed  
software by  
patching-in  
changes.  
**p. 9**

The screenshot shows a window titled "The Programmer's Shop" with a menu bar containing "File", "Edit", "Options", "Special", and "About...". A "Catalog" dropdown menu is open, displaying "Over 2,000 Products For DOS, Windows, Unix, and More...". The main area features six icons with labels: "Bulletin Board" (a pushpin on a notepad), "24-Hour Shipping" (a large "24" with an airplane), "FastFaxes" (a fax machine), "Bundles" (a person holding a box), and "Technical Support" (two people). A vertical text strip on the right lists: "technical", "a robust", "professional", "complete", "the great", "and savings", "or Service", "ledgeable", "accurate", "formation", "the best", "products". At the bottom, a text box reads: "we're your complete source for professional programmer's tools and applications software. Call today." Below this, the phone number "800-421-8006" is displayed in large red font, with "800-446-1185 National Accounts" in smaller red font below it.

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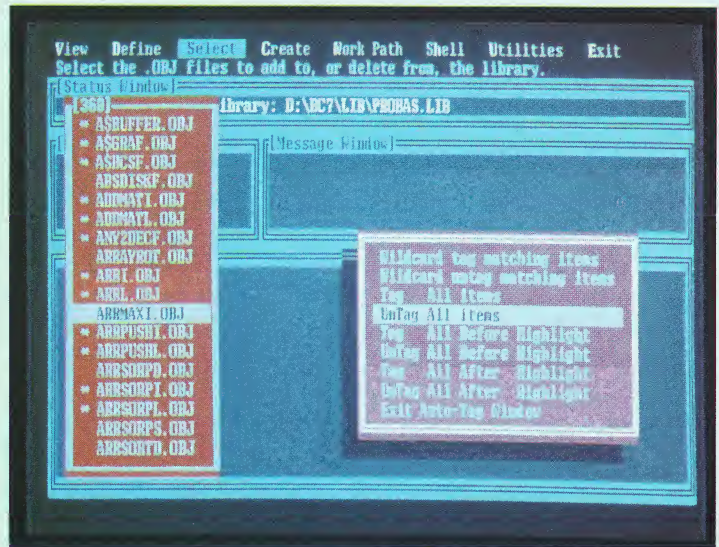


The Programmer's Shop is a division of The Software Developer's Company, Inc.



# Create Menus Like These in Minutes!

How many lines of code would it have taken you to create these three menus? With PROBAS tools, you can create this screen with just four CALLs!



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- Moveable, resizable windows
- Screen snapshots (text & graphics)
- Virtual screens in memory
- Lightning fast file I/O
- Read/Write to/from EMS memory
- String, array, and pointer sorts
- Search directories and archives

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- Protected memory storage area

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### TOOLKIT

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## PROBAS™

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Alpha RPL makes things that were once difficult or even impossible much easier to do. Alpha RPL is the hot new programmer's tool on the market today. Here's what it can do for you:

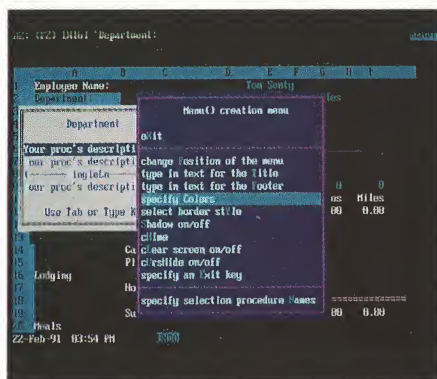
**Integrate Applications** – You are a VAR developing a medical office system. Use Alpha RPL to make Lotus 1-2-3® and WordPerfect® work smoothly together. Your customers do their monthly budgets in 1-2-3, where your Alpha RPL program watches for a Save command, then pops up a dialog box: are they ready to prepare the status report? If yes, Alpha RPL extracts the budget, starts WordPerfect, creates a new file, drops the numbers into boilerplate text, prints the report, and returns to 1-2-3. You've given your customers a consistent, integrated system using off-the-shelf software and Alpha RPL.

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**Automate** – Develop an application that works overnight. Instruct Alpha RPL to watch the screen for incoming file transfers. Whenever a new file comes in, Alpha RPL compresses it, archives it, and creates a time-stamped log. At the end of the night, Alpha RPL loads a word processor to format the log and print it out.

**Create** – Build complete memory-resident applications in a fraction of the time it would take with traditional languages. Alpha RPL is much easier to work in than C, Basic, or other languages because both the language and the development environment are optimized for memory-resident programming.

**Simplify PC-to-Mainframe Connections** – You have PCs around the world sending information to the company mainframe. At remote sites, data is entered into 1-2-3. Alpha RPL logs onto the home office mainframe to feed new data into entry screens. Alpha RPL verifies each screen on the PC first, eliminating manual verification.



*At last there's a program that lets developers, MIS Managers and VAR's glue existing applications together. This screen shows how to add a menu of department names to the underlying spreadsheet application.*

Later, an Alpha RPL program runs the mainframe reports, which are captured, converted to spreadsheet format, and sent back to the field.

## ALPHA RPL'S KEY FEATURES

Here are just a few of Alpha RPL's advantages:

- ✓ Features a structured language similar to C or Pascal.
- ✓ Includes an integrated development environment with Editor, Debugger, and Library Manager.
- ✓ Includes extensive on-line help, with an index of equivalent statements in C and Basic.

- ✓ Gives you complete control of your PC. Wake up on events such as time of day or elapsed time, or whenever a message appears on defined parts of the screen, or on key presses or key combinations or interrupts.
- ✓ Lets you execute one DOS application from inside another while Alpha RPL still remains in control.
- ✓ Contains powerful single statements that let you build menus, pick lists, and other building blocks of a modern user interface.
- ✓ Lets you call DOS and BIOS functions.
- ✓ Lets you work with DOS and dBASE®-compatible files.

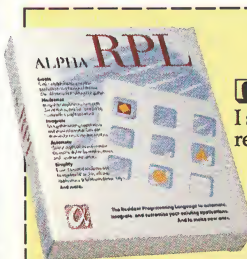
Alpha RPL also comes in a Mainframe Edition which makes it as easy to control and monitor mainframe sessions as it is to control and monitor PC programs. The Mainframe Edition:

- ✓ Stays in control when emulator programs take over the PC.
- ✓ Allows you to control mainframes directly with HLLAPI commands.
- ✓ Lets you run DOS programs and batch files without leaving your emulator.

Alpha RPL's retail price for the Developer's Edition is \$595, and the Mainframe Edition is \$995. But because you're a Programmer's Shop reader, you can buy a full copy of the Developer's Edition for just \$99, if you order before July 15, 1991. Return it for a full refund within 30 days if you're not delighted with our breakthrough TSR programming product.

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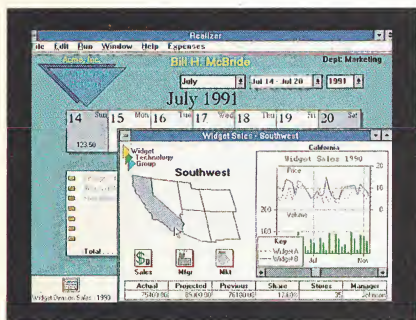
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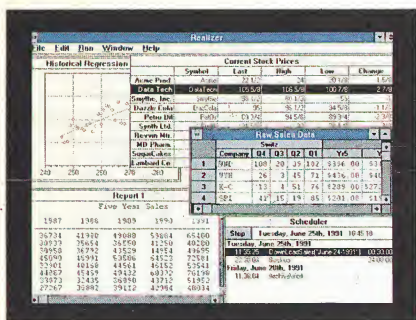
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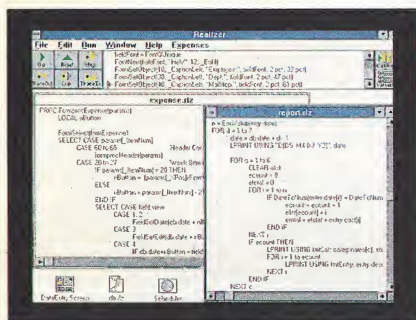
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- Dynamic arrays and strings.
- Full range of mathematical functions, including fast vector operations.
- Statistical functions, such as least-squares regression and moving averages.
- Read and write a variety of file formats from text and binary to Lotus® 1-2-3®, Excel, and BMP.
- Run Windows and MS-DOS® applications and access DOS commands.

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With REALIZER you see results instantly. REALIZER transparently handles Windows disk and memory management, messages, and objects.

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- Full-featured integrated debugger with controls such as single stepping, variable display, trace, and call tree.
- Create pull-down menus and your own fully indexed, online help.
- Complete control of fonts and colors.
- Extensive context-sensitive help.
- Full printing and reporting.

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series for financial data. Place markers and text anywhere, control the X and Y axes, automatically rescale any chart, and *zoom in* on any data.

### Spreadsheets

Provide a familiar, interactive interface for displaying and entering data, with custom date-time, currency, and scientific data formats.

### Forms

Choose from the full range of Windows objects: push buttons, option buttons, check boxes, list boxes, text fields, and bitmaps, and combine them with any of the other REALIZER tools to build your business and personal applications.

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Run any REALIZER or DOS command at specified times and intervals to back up files automatically, download data, or process real-time events.

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Generate forms without writing a single line of code. Quickly create an intuitive visual interface by simply "drawing" Windows objects, such as buttons, list boxes, bitmaps, and edit fields.

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- Establish triggers and links among REALIZER tools.
- Full support for DDE and serial communications.
- Access any Windows API functions or third party Windows engine, such as the Borland Paradox® Engine or Gupta's SQLWindows™.
- Use REALIZER'S custom controls to extend Windows standard objects and add your own application tools.
- Access functions from languages such as C and Pascal via DLLs.

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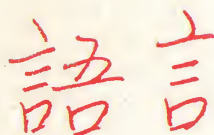
### System Requirements

- Personal computer using the Intel® 80286, 80386, or higher processor.
- 640K conventional memory (640K conventional and 256K extended memory recommended).
- CGA, EGA, VGA, 8514/A, Hercules graphics card, or compatible video graphics adapter and monitor (EGA or higher recommended).
- MS-DOS or PC-DOS operating system version 3.1 or higher.
- REALIZER runs with Microsoft® Windows 3.0, and works with any 100% compatible Windows 3.0 peripherals and network products.

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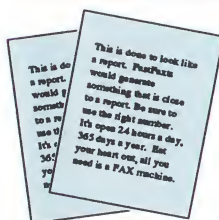
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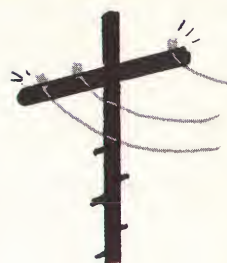
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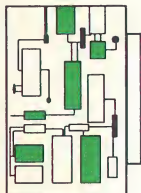
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Place orders by mail or fax.

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# ACCESS MANUFACTURERS

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#### STEP 2

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#### STEP 3

When prompted by the computer's voice instructions, enter the product's *FastFacts* code number followed by a pound (#) sign. If you make a mistake while entering a number, hit the asterisk (\*) key and start again.

#### STEP 4

When prompted by the computer, hit the "START/COPY" or "RECEIVE" button on your FAX machine (usually the green button). You may then hang up the phone and start receiving your product literature.

**FREE 24-hour service.** If you have any  
questions about **FASTFAXTS** just call  
any account representative  
at 800-421-8006.

**CALL 617-740-0025  
FROM YOUR FAX  
MACHINE!**



# POCKET SOFT

## New.RTPatch Automatically Updates Software!

.RTPatch revolutionizes upgrading. Now you can upgrade your distributed software by simply patching the changes into existing installed files.

.RTPatch analyzes the differences between the old version and the new version of any software file and creates a Patch which is automatically applied to the end-user's system. This simplifies the entire upgrading process and reduces the cost.

Imagine sending an entire system upgrade on a single diskette and having it installed with a simple command, safely putting your upgrade on a bulletin board or quickly down-loading via modem.

.RTPatch will work with any type of file, including .EXE, database, spreadsheet, text, and rate files. It can be used to upgrade a single file, an entire system or an entire directory of files. To insure reliability, extensive verification is done at both creation and application of the patches.

Using .RTPatch involves two easy steps. First, the comparison program analyzes the version differences and creates a Patch file. Second, the end-user simply specifies the directory containing the files; the rest is automatic.

With .RTPatch it's that easy: a revolution in software upgrading.

Works with MS-DOS, Windows, and OS/2.  
There are no royalties or run-time charges.



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## .RTPatch from POCKET SOFT

(713)460-5600



## Pocket Soft Introduces New Upgrading Technology

**.RTPatch analyzes version differences and  
creates small 'patch' files for upgrading distributed software**

Pocket Soft has just released a new product which, according to company officials, will revolutionize the distribution of software upgrades and system updates.

.RTPatch simplifies the procedures and reduces the costs of distributing and installing upgrades to software systems. With .RTPatch, software developers and system managers can build patch files which contain only the differences between the old version and the new version. When a Patch is received by the end-user, the patching process automatically upgrades the installed system to the new version. Patch files can be used to upgrade any type of file, including .EXE, database, text and spreadsheet files. Patches can be generated to update individual files, entire directories or a complete system.

.RTPatch is a very sophisticated, yet easy-to-use program which can be used by both programmers and end-users who need to update any type of software file. .RTPatch works with MS-DOS, Windows and OS/2 programs. To ensure reliability, .RTPatch performs multiple verification checks to verify proper construction and application of the patch files.

Whether updating a single file or an entire system, the .RTPatch procedures consist of two easy steps. First, .RTPatch's BUILD program performs a comparison of the new version and the old version, then creates a Patch file which contains information necessary to transform the old version into the updated version. Then, at the site to be upgraded, the user installs the Patch to his old version using the PATCH program. To apply a Patch, the user simply specifies the directory containing the version to be upgraded -- .RTPatch does the installation and verification automatically.

.RTPatch works with any file type. To further reduce the size of a Patch file, the Patch is compressed once the building process has been completed.

"The concept of patching-in only the changes to a system is not new," says Bill Wise, president of Pocket Soft. "It has been done for years in larger systems and can even be done manually in the PC environment, although it is difficult and time consuming. What we have done is automate the process in order to make it easier, faster and very reliable."

.RTPatch performs numerous safety and verification checks to insure proper building and installation of Patch files:

- 1) The Patch building program internally performs an automatic verification prior to building the completed Patch file. This routine creates a scratch copy of the new file by applying the Patch to the old file. It then compares the created scratch file against the new file, byte for byte.

- 2) At the installed site, the PATCH program performs a series of verification checks to insure the proper files are being addressed. Then, a back up of the affected files is performed. Once the Patch has been applied, a verification is performed to insure proper installation was achieved.

Pocket Soft is known for its popular MS-DOS linkers: .RTLink/Plus and .RTLink. These linking technologies are available as both off-the-shelf products and are included as system linkers for Nantucket's Clipper 5.0 and 5.01 product, and the Clarion Professional Compiler. Ashton-Tate has also announced .RTLink/Plus will be included in the forthcoming Professional dBase Compiler.

The list price of .RTPatch is \$495.



# dTruth Comes Out.

# Software Digest®

# RATINGS REPORT®

Volume 7, Number 13

The Independent Comparative Ratings Report  
for Selecting IBM PC Business Software

## MULTIUSER DATABASE PROGRAMS

Ratings Key:

■ 7.0-10.0 ■ 5.0-6.9 ■ under 5.0

Software Digest Rating	Overall Evaluation	Overall Power	Program Name	Version Tested	Performance	Versatility	Error Handling	Ease of Learning	Ease of Use	Memory Requirement	Price	Volume Purchase Agreement	Page
***	7.0	6.7	dBase IV	1.1	■	■	■	■	■	450KB	\$795	✓	28
**	6.8	5.1	Paradox	3.5	■	■	■	■	■	640KB	\$995	✓	32
**	6.8	7.1	FoxPro/LAN	1.02	■	■	■	■	■	512KB	\$1,095	✓	30
**	6.4	5.1	DataEase	4.2	■	■	■	■	■	640KB	\$750	✓	26
*	5.8	3.6	R:Base	3.0	■	■	■	■	■	520KB	\$995	✓	34
*	5.7	6.0	Clarion Professional Developer	2.1	■	■	■	■	■	512KB	\$845	✓	24
*	5.7	6.6	Advanced Revelation	2.01	■	■	■	■	■	640KB	\$995	✓	22

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The new dBASE IV® version 1.1 has been rated the #1 Multiuser Database by Software Digest Ratings Report (Volume 7 Number 13, October, 1990).

Because Software Digest accepts no advertising whatsoever, subscribers pay hundreds of dollars a year to receive their reviews—which are considered highly unbiased and objective.

In summation, their 75-page report says: "Among the top ranking programs, dBASE IV (version 1.1) is the most well rounded, with solid performance, versatility, and usability." Commenting on speed, Software Digest points out that "dBASE IV produces all three test reports as fast as or faster than FoxPro/LAN." As for Ease of Use/Ease of Learning, dBASE IV scored as many times in the Excellent range as any other database product tested.

Of course, Software Digest is definitely not alone in its conclusions.

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 Ashton-Tate®



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Development Tools for the 32-bit Environment.



## How to remove the last barrier to 32-bit programming.

Open Intel's new 386/486 C Code Builder™ Kit. And tear into the increased memory and performance of 32-bit DOS protected mode.

Inside, you'll find everything you need to develop 32-bit applications. That means you get a Microsoft and ANSI compatible C Compiler and Libraries, Linker, Librarian, Make Utility, and Source Level Debugger. We've even included a DOS Extender that's DPMI-compliant. Compliancy that enables easy migration to Windows\* from Microsoft.

To make moving up even simpler, we've also

included free Intel support and a \$695 price tag. With no royalties to pay. Ever.

Try it at no risk. Purchase it from your Intel dealer with a 30-day, money-back guarantee. Or call 1-800-525-3019 for fax document #8000, or Intel customer service at 1-800-538-3373. Because with Code Builder, the hardest thing about getting into 32-bit programming is opening the box.

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# DESPERATELY *MORE* SEEKING PROGRAM SPACE?

## ERGO CAN HELP!

DOS Extenders from Ergo Computing let you break the 640K DOS barrier by taking advantage of Protected Mode operation. Finally, you can truly utilize the potential of the 386 and 486 with up to 4 Gigabytes (or 16 MB on a 286) of code and data space.

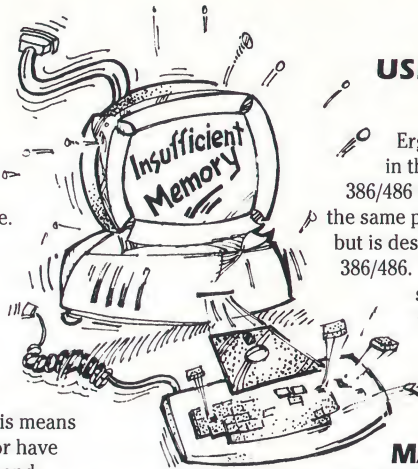
To support your 32-bit code needs, Ergo's OS/386 DOS Extender works with all the popular 32-bit compilers including Lahey, Watcom, Microway NDP and Metaware. In addition, unlike any other vendor, it also supports popular 16-bit languages such as Microsoft C, Fortran and MASM and Borland C++, Turbo C++, Turbo C and TASM. This means that if you are porting an existing 16-bit application or have libraries you don't want to recode, we save you time and effort by letting you intermix your 16- and 32-bit code. This makes creating a 386/486 implementation of your application significantly easier and quicker.

## GREAT LIBRARY SUPPORT

Supporting the popular languages isn't enough. Many developers today are taking advantage of the excellent third party graphics and math libraries available to make their job easier. Ergo supports many of these libraries including Borland (BGI), C-Scape, GSS, Greenleaf, Halo, Metawindows, Sterling, Vermont Views and Zinc. Additionally, our unique RPC mechanism gives you the capability to incorporate even those libraries that are not Protected Mode capable.

## WINDOWS 3.0, TOO

With Ergo, you have a clear path to the future. You don't need to decide whether to support Windows or DOS or both. We provide the flexibility your market demands. Our unique DPMI products take advantage of the Windows DOS Extender, if it's present, and provide their own DOS Extender if it's not. Your programming is simpler because you only need to create one executable for both environments.



## USE THE 386 OR THE 286!

We haven't forgotten about the 286. Ergo Computing has the most experience in the industry supporting both 286 and 386/486 systems. Our OS/286 product supports the same popular 16-bit languages as the OS/386, but is designed to operate on the 286 as well as the 386/486. It's ideal for the developer who needs to support the 286 world. And because our OS/286 uses the same API as the OS/386, when and if you decide to switch to 32-bit languages, the time and effort required will be minimal.

## MARKET LEADERS RELY ON ERGO

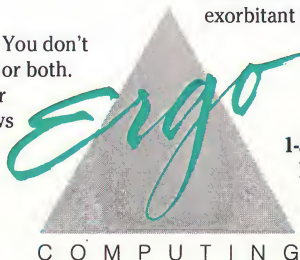
Numerous companies have chosen Ergo DOS Extenders. Their products range from mass market programs to programs strictly for internal use. Some of the more familiar names are Borland International, Lahey, Meridian and Stepstone for their compilers; Borland, Fox and Progress for databases, Cadam and PCAD for CAD; Comshare for executive management information; Wolfram for math; and Easel for graphics.

## REASONABLE PRICING

To get started, just purchase one or more of our affordable developer's kits priced for as little as \$495. You will be provided with all the tools you need to create a Protected Mode application. And when you're ready to distribute your software, our royalty-free and low-priced distribution licenses safeguard you from exorbitant fees or unwanted accounting responsibilities.

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# ERGO DOS EXTENDERS

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## 286/386/486 COMPILERS AND DOS EXTENDERS

These are compilers and special tools that take advantage of the addressing, protected mode, instruction sets, and/or other features of 286/386/486-based computers.

### ADA

#### Janus/Ada Compiler 386

R.R. Software

586-049

500

351

Native, 386 validated, multi-pass compiler, integrated optimization. Linker with code-trimming and memory models zero and one. Library management and make utilities; Ada tutorial. Software emulated floating point; sequential, text, direct I/O; BCD fixed point; bit/byte/string manipulation; tasking; more.

Requires 386 machine and Phar Lap DOS extender.

### ASSEMBLER/TOOLS

#### OS/286

##### Ergo Computing

810-003

695

589

Go beyond 640K with 16-bit addressing to 16M. Runs on top of DOS to provide protected mode abilities without changing DOS system calls. Works with Borland and Turbo C++; MS C, Fortran; Objective C, Meridian Ada.

Requires 286 machine.

#### OS/386

##### Ergo Computing

810-003

695

625

Go beyond 640K with 16- and 32-bit addressing to 4G. Runs on top of DOS to provide protected mode abilities without changing DOS system calls. Supports Lahey F77L-32; Watcom C and Fortran; NDP C, Pascal, and Fortran; MetaWare High C v.1.7 and Professional Pascal; in addition to languages supported by OS/286.

Requires 386 machine.

#### 386|ASM/LinkLoc

Phar Lap Software

420-005

1,295

1,199

80x86 Embedded Development Package. Includes 386|ASM Assembler, the LinkLoc embedded systems linker, the 386|LIB librarian, a development version of 386|DOS-Extender, and the MINIBUG debugger.

#### 386|Debug

Phar Lap Software

420-002

195

195

Symbolic debugger for the 80386, real and protected modes. Environment compatible with 386|Dos Extender, SYMDEB-like syntax and commands. Allows disassembly of 80x87 instructions. Provides capability to display and modify all 80386 registers.

#### 386|DOS Extender SDK

Phar Lap Software

420-001

495

479

Includes 386|ASM, an 8086/186/286/386/486 assembler, 386|Link linker, the 386|LIB librarian, a development version of the 386|DOS-Extender protected mode run-time environment, and 386|Debug, a debugger for real mode and 386|DOS-Extender programs. Supports XMS and Windows real and standard modes.

#### 386|VMM

Phar Lap Software

420-006

295

295

Development package to provide demand-paged virtual memory capabilities to 386|DOS-Extender SDK. Run programs with memory requirements exceeding available RAM. Swaps code and data out to a disk file.

Requires 386|DOS-Extender SDK.

#### LinkLoc

Phar Lap Software

420-004

795

795

Extended linker package for 80x86. Includes LinkLoc, an enhanced version of the 386|Link linker which supports output formats for 8086/186/286/386/486 in-circuit emulators and PROM programmers. Also includes 386|LIB librarian.

#### 286|DOS Extender SDK

Phar Lap Software

420-045

495

479

A protected mode environment which allows developers to use the Microsoft C compiler, linker, and CodeView debugger to build protected-mode applications up to 16M without overlays or bank-switched EMS. Functions as a layer between DOS and the application program. Supports VCPI, XMS, DPMI, DLL's.

### C

#### 386 C Code Builder

Intel

2799-028

695

599

Complete 32-bit software development package. Full 32-bit compiler, 32-bit linker, 32-bit source code symbolic debugger, 32-bit MS compatible libraries and utilities, and MAKE facility. Does not require runtime payments for executable code production.

Requires 386, 2M.

#### MetaWare High C 386/486

MetaWare

89-001

895

875

Locally optimizing ANSI C compiler generates 32-bit code for 386 or 486. Error checking; nested functions. Supports all major floating point processors. Includes MS-compatible libraries, graphics libraries, C editor, and UNIX-like utilities for DOS. INCLUDES 32-bit debugger.

Requires 386/486, Phar Lap 386/486 DOS Extender.

#### MetaWare High C 386/486

MetaWare

89-038

995

935

Globally optimizing ANSI C compiler generates 32-bit code for 386 or 486. Error checking; nested functions. Supports all major floating point processors. Includes MS-compatible libraries, graphics libraries, execution profiler, lint-like checking, C editor, 32-bit source-level debugger, and Unix-like utilities.

Requires 386/486 and PharLap DOS Extender.

#### NDP C 386/486

Microway

299-020

895

829

Globally optimizing 32-bit native code compiler. Implements Bell Labs Portable C with ANSI and Microsoft extensions plus MicroWay GREX library. Includes DOS extender (loader), linker, librarian. Supports math coprocessors. Linkable with NDP Fortran, C++, Pascal. Call for price on 486 version.

#### WATCOM C8.0/386 Professional Edition

WATCOM

1044-005

1,295

1,039

Generates 32-bit 386 protected-mode code, addresses up to 4GB. MS C source/library compatibility permits porting of 16-bit applications. Includes 100% ANSI compatible protected-mode version of compiler, graphics library, full-screen source level debugger, profiler, linker, make utility, librarian, and utilities.

Requires 386/486, DOS extender.

#### WATCOM C8.0/386 Standard Edition

WATCOM

1044-006

895

795

Like Professional edition, but without profiler, full-screen source level debugger, or protected-mode version of compiler.

Requires 386/486, DOS extender.

### C++

#### Intek C++ 80386

Intek

1537-001

495

475

AT&T C++ on 386 machines. Features strong type checking, OOP support, and user defined types. Compile very large programs using protected mode.

Requires Microsoft C, Turbo C, or High C.

#### NDP C++ 386/486

Microway

299-073

1,195

1,129

Full AT&T release 2.0 compatible, includes as a subset a MicroWay ANSI C compiler. Features full function inliner, constructors/destructors, single/multiple inheritance, overloading, classes, linker, librarian, and DOS extender (loader). Link with NDP C, Fortran, Pascal.

### DBMS

#### Paradox

Borland

777-104

795

555

DBMS features query by example, report/form generators, presentation graphics, crosstabs, application language for customization, import/export, automatic record/file locking. Now includes VROOM for speed and accessing up to 16M of extended/expanded memory. Create complete applications without programming.

### FORTRAN

#### F77L-EM/32 with OS/386

Lahey Computer Systems

334-023

1,390

1,149

Full FORTRAN 77, 32-bit compiler for writing and porting programs up to 4GB. Includes Weitek support, DO WHILE and END DO statements, video graphics, editor, VAX and IBM VS mainframe extensions, diagnostics, debugger, Pre-Processor and support for conditional compilation. OS/386 includes virtual memory support, free runtimes.

Requires 386 machine.

#### NDP Fortran 386/486

MicroWay

299-011

895

829

Globally optimizing VAX/VMS compatible FORTRAN compiler. Supports Intel, Cyrix, Weitek coprocessors. Full FORTRAN 77 with DOD, FORTRAN 66, BSD 4.2, and VMS extensions. Linkable with NDP C, C++, and Pascal. Includes linker, DOS extender (loader), and librarian.

80486 specific version available.

#### WATCOM FORTRAN 77/386

WATCOM

1044-007

1,095

1,095

Generates 32-bit 386 protected-mode code, addressing memory space up to 4GB. Run-time compatible with WATCOM C/386. Includes protected-mode version of compiler, full-screen source-level debugger, full ANSI FORTRAN '77 language support plus extensions, profiler, SAA compatible, linker, librarian, make utility, more.

Requires 386/486, DOS extender.

### OBJECT-ORIENTED

#### Smalltalk/V 286

Digital

38-001

200

175

Object oriented programming language. Mouse interface, graphics, windows, and source-level debugger. Royalties apply.



**NEW**  
Product from  
Germany

# THE PROGRAMMER'S SHOP

## INTRODUCES

# GFA-BASIC for DOS

**F**ull Blown Graphical User Interface Support. Over 70 commands that automatically provide powerful pull-down menus and pop-up windows dialogue boxes, scroll bars and mouse actions. Graphical operations that would take pages of "C" code and other tools take only a single command in GFA-BASIC. All programs written are upward compatible to GFA-BASIC for Windows 3.0 without change.

Programs written in GFA-BASIC run FAST . . . whether its graphics generation or math, GFA-BASIC takes advantage of your math co-processor to fulfill your need for speed! And the graphics "pop" onto the screen at your PC's rated speed.

Beyond GUI, GFA-BASIC is a POWERFUL programming language that supports all features you need for Structured Programming—as well as all the Low-Level control you need for the "nitty gritty" stuff to create efficient and full-fledged applications.

- Compact program size under 250KBytes—Hard disk not required.
- Contains many standard commands for creating standard graphic user interfaces such as menu-bars, alert boxes, pull-down menus, etc. Additional toolboxes are not required.
- Supports all standard graphic cards (CGA, HGC, EGA, VGA) in a resolution of up to 800x600 pixels in 16 colors without the need for external drivers.
- Contains many special mathematical commands and functions for linear algebra, statistics and trigonometry to create technical and scientific applications. A special math library is not required.
- Supports swapping of data on hard disk.
- Supports strings and arrays larger than 64KB.
- Upward Compatible with GFA-BASIC for Windows 3.0 except for hardware and system dependent commands.

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Limited Release  
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# Languages

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	FastFax	List Price	OUR PRICE		FastFax	List Price	OUR PRICE
<b>PASCAL</b> <b>Prof. Pascal 386/486</b> <b>MetaWare</b> 89-003 Optimizing Pascal compiler. Linkable with C and other languages. C-like bit manipulation, variable-length strings, C-like extensions, error checking. Supports all major floating point processors, including Weitek. Generates 32-bit code for 386 or 486. <i>Requires 386/486 and DOS extender.</i>				<b>Power Basic</b> <b>Spectra Publishing</b> 777-015 BASICA and GW-BASIC compatible. Editor, compiler, linker, and debugger in an integrated environment. Supports control structures, recursion. Features procedural math package, unlimited string space, COM3/COM4 support up to 115K, and network support to give control over file access.			
		795	769		129		119
<b>NDP Pascal 386/486</b> <b>Microway</b> 299-034 Globally optimizing 386 native code compiler including linker, DOS extender (loader), librarian, GREX graphics library, preprocessor, separate module compilation. Supports math coprocessors; implements ANSI/IEEE standard with 4.2 BSD Pascal and BSI Level 0 extensions.				<b>C</b> Structured language widely used at all levels of industry due to its flexibility and portability. C can be nearly as efficient as assembler, so it is often used to write operating systems and other user-intensive software. Many C++ compilers also come with very good C compilers. <i>See also C++ Language; Cross Assemblers and Cross Compilers.</i>			
		895	829				
<b>ADA</b> A comprehensive modular language, based on Pascal, designed primarily for embedded systems, business, scientific, and engineering applications. Especially good for large projects. Designed by and a standard for the Department of Defense. <i>See also Cross Assemblers and Cross Compilers.</i>				<b>TopSpeed C</b> <b>Jensen &amp; Partners</b> 1159-007 ANSI compatible optimizing C compiler. Extended library functions include a time-sliced scheduler, text windows. Borland windows supported. MS graphics supported, with bar chart and polygon plotting, formatted text output to graphics windows. Integrated environment includes built-in make, hypertext help system.			
					199		179
<b>IntegrAda</b> <b>AETECH</b> 1290-001 Validated compiler with integrated Ada Programming Support Environment (APSE). Includes pop-up windows, language sensitive editor, syntax checker, and more. Library with graphics, sound, math, utility, floating point, RTEXT_IO, STRLIB, more. No extra memory or math coprocessor needed. DoD 2167 documentation aids.				<b>MetaWare High C DOS x86</b> <b>MetaWare</b> 89-001 Optimizing ANSI C compiler. Lint-like checking. Nested functions. Linkable to Pascal and other languages. Floating point support. Comes with MS-compatible libraries, graphics libraries, C editor, and Unix-like utilities for DOS. Generates 16-bit protected mode code for OS/286 and DOS16M.			
		495	409		495		439
<b>Janus/Ada x86 Compiler</b> <b>R.R. Software</b> 586-002 Validated multi-pass compiler, integrated optimization. Linker with code-trimming and memory models 0 and 1. Library management and make utilities and Ada tutorial. Runtime libraries with 80x87 support; software emulated floating point; sequential, text, direct I/O; BCD fixed point; bit/byte/string manipulation; tasking; more.				<b>C 6.0 Compiler</b> <b>Microsoft</b> 502-112 Programmer's Workbench integrated environment allows incremental compilation and linking; Source Browser allows interactive browsing through project database, reviewing relationships/use of variables, functions, definitions, and macros. Also build and add-on tools; CodeView 3.0 takes less than 20K on 286 or higher PC. <i>Supports DOS, OS/2, and MS Windows.</i>			
		99	79		495		349
<b>ASSEMBLY</b> Symbolic machine language. In an assembly program, each line stands for one machine instruction. Each chip type has a different assembly language. Since assembly language is rather unstructured, assembly programs can be difficult to maintain, but they can also be extremely efficient. <i>See also Disassemblers; Linkers and Librarians; Cross Assemblers and Cross Compilers; Cross Development and Embedded Systems.</i>				<b>Quick C/Assembler</b> <b>Microsoft</b> 502-089 Adds an integrated assembler to the QuickC environment. Also included is QuickAdvisor, a hypertext electronic reference guide to all ROM BIOS and MS-DOS calls, including sample code which can be pasted into your own programs.			
					199		149
<b>Turbo Debugger &amp; Tools</b> <b>Borland</b> 777-087 Includes Turbo Debugger 2.0 with reverse execution, 286 protected mode, keystroke record/playback, mouse support. Turbo Profiler 1.0 shows how code and files are used, how calls are made. Turbo Assembler 2.0 100% MASM compatible. Multipass assembler generating optimized code.				<b>QuickC</b> <b>Microsoft</b> 502-067 Incremental compiler, hypertext on-line help, advanced debugger with back step. Memory resident, compatible with Microsoft C Compiler and CodeView.			
		150	119		99		69
<b>Macro Assembler (MASM)</b> <b>Microsoft</b> 502-033 Macro assembler for MSDOS and OS/2. On-line help, extensive documentation, editor, CodeView debugger, library manager, program maintenance utility, .EXE file compression utility, .EXE file header utility, and cross-reference utility included.				<b>C Network Compiler</b> <b>Novell</b> 141-032 Optimizing compiler and tools for creating client applications which run on Novell NetWare. Compiler, based on Watcom C, includes editor, source level debugger, and Microsoft compatible linker. Includes library of NetWare API's and Btrieve record manager. Tutorial includes theory, commentary, examples.			
		150	105		695		595
<b>OPTASM</b> <b>SLR Systems</b> 130-001 MASM 5.0-compatible (except for 386 support) assembler, better handling of forward references, out-of-range jumps, EXTERN. No BYTE PTR, WORD PTR. Very fast.				<b>Instant-C</b> <b>Rational Systems</b> 127-001 C language development environment. Incremental compiler, interpreter, type-safe incremental linker, source-level debugger, code browser, configurable editor. Pointers checking, arrays, function and return addresses, more. Environment RAM-based. MS C source, object compatible. Handles programs over 100k lines. <i>Requires 286/386/486, 1M.</i>			
		150	135		495		479
<b>BASIC</b> An easy-to-learn language that is used by many beginners and experienced programmers for a wide variety of applications, especially in the business field.				<b>WATCOM C 8.0 Professional Edition</b> <b>WATCOM</b> 1044-012 Includes: 100% ANSI C optimizing compiler and library; protected-mode version of compiler; Windows support; library and source MS compatible; graphics library; overlay linker; profiler; source-level, remote, overlay debugging; MAKE; runtime compatible with FORTRAN 77, SAA compatible, and WATCOM Express C. <i>Includes 16-bit 80x86 DOS, Windows, and OS/2 versions.</i>			
					495		439
<b>GFA BASIC</b> <b>GFA Software</b> 5005-001 Contains 500+ commands and functions. Includes interpreter as well as editor. Contains commands for creating graphics user interfaces such as pull down-menus, alert boxes, menus, etc. Supports hard disk swapping, special math functions, strings and arrays larger than 64K, math coprocessors, and more. <i>Portable to Microsoft Windows version of GFA BASIC.</i>				<b>WATCOM C 8.0 Standard Edition</b> <b>WATCOM</b> 1044-012 Same as Professional version, but without OS/2 and Windows support, execution profiler, and protected mode version of compiler.			
		249	195		395		359
<b>BASIC Compiler</b> <b>Microsoft</b> 502-007 Develop programs for both DOS and OS/2. Includes editor, CodeView debugger, and QuickBasic.				<b>C Video Course</b> <b>Zortech</b> 1108-014 Complete, compiler and machine independent, C language training course in 36 lessons on ten VHS videotapes with workbook and tutorial disk. Also includes Zortech C compiler. Extra workbooks available.			
		495	349		295		275
<b>QuickBASIC</b> <b>Microsoft</b> 502-049 Integrated development environment. Includes full-screen editor with automatic syntax checking, instant context-sensitive help, multiple windows, and Undo command. Window-oriented debugger, quick compiler, math coprocessor support, interlanguage calling, and structured programming support.							
		99	69				

Languages



*OS/2 UNIX System Vr4 Am29K  
IBM AIX Extended DOS AT&T  
Weitek ANSI C MS-DOS i486  
IBM 370 RISC Sun-4 Motorola  
Intel 386 UNIX System V SPARC  
Sun-3 Pascal AutoDesk PS/2  
SCO HP 9000 NCR Solbourn*

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## C++

An object-oriented superset of C. It has all the efficiency and flexibility of C, together with strong typing and data abstraction. Originally C++ was implemented as a pre-processor that required the use of a C compiler. However, now true C++ compilers are starting to appear as the language matures.  
*See also C Language; Object-Oriented Languages; AI and Object-Oriented Libraries.*

### Borland C++

**Borland** **777-120** **495** **379**  
Borland's C++ compiler for DOS and Windows. Support for large disk drives and 80286 instruction set. Complete support for Windows without the SDK. Turbo Drive Compiler and Environment runs in protected mode. Pre-compiled headers. Includes Whitewater Resource Toolkit, Turbo Profiler, and Turbo Assembler.

### Turbo C++ 2nd Edition

**Borland** **777-080** **99** **88**  
Supports AT&T C++ 2.0 specification. Compiles existing ANSI C code. Programmer's Platform allows integration of tools. User interface with multiple overlapping windows, mouse support; multi-file editor; visual make; project manager. Virtual Runtime Object-Oriented Memory Manager (VROOMM) for dynamic loading.

### C++ V3.0 Developer's Edition

**Zortech** **1108-072** **700** **629**  
Contains everything needed to develop compatible applications for DOS, Windows, OS/2 and DOS 386. Includes Zortech DOS Extender to develop applications up to 4G, and 16 bit DOS Extender for 2/3/486 machines. Includes WINK library to convert DOS command line programs to Windows ones; C++ tools, library source.

### C++ Science & Engineering Edition

**Zortech** **1108-076** **1,000** **895**  
Same as Developer's Edition plus additional features to simplify numerical computing. IEEE 748 floating point compliant and supports NCEG numerical C extensions group. Also includes M++ library with multi-dimensional array classes.

## COBOL

A mature business oriented language used extensively on mainframes and increasingly on personal computers. Being descriptive rather than symbolic, it is self-documenting.

### COBOL/2 Compiler&Toolset

**Micro Focus** **90-027** **1,800** **1,699**  
Full 74 and 85 ANSI, SAA compliant, includes source and object code debuggers, screens, window management, text editor, screen painter, DOS memory extender, and memory management. Also LAN and PM support, embedded SQL, and runtime royalty free option. New feature Reportwriter. Supports both DOS and OS/2.

### Dialog System

**Micro Focus** **90-023** **1,000** **969**  
Keyboard-driven screen painter generates screen files, tests screens then compiles COBOL program. Includes tools for developing screens and keyboard dialogs; royalty-free runtime.

### Personal COBOL

**Micro Focus** **90-013** **149** **145**  
ANSI 74 High level standard COBOL interpreter; includes editor, code generator, and Animator. Recommended for students.

### COBOL Optimizing Compiler

**Microsoft** **502-066** **900** **639**  
Certified High 85 COBOL. Supports many dialects. Animator debugger. Network and DOS support, huge memory model, indexed files, make, editor.

### CICS

**Realia** **444-001** **995** **859**  
CICS system includes CICS-to-COBOL preprocessor, BMS macro processor, resource definition processor, map editor.

### COBOL

**Realia** **444-002** **995** **859**  
COBOL compiler creates executable files. Compatible with VS COBOL. Includes many ANSI 85 extensions as well as a line editor, sort, and debugger. NO runtimes required.

### RM/COBOL-85

**Ryan McFarland** **437-105** **1,250** **1,189**  
COBOL compiler/runtime system. Conforms to 1985 and 1974 ANSI. Language extensions for X/Open and SAA compliance. Allows compilation of application into machine independent portable object code. Requires runtime for distribution.  
*Requires 256K. Runtime available. NetWare development and runtime versions available.*

## CROSS ASSEMBLERS AND CROSS COMPILERS

Assemblers and compilers for machine types other than the one doing the assembling or compiling. Often used for embedded systems development.  
*See also Cross Development and Embedded Systems Tools; Assemblers; C Language; Ada Language; Linkers and Librarians.*

### C Cross Compiler

**American Automation** **2109-012** **895** **879**  
ANSI C for various chip families. Features vary somewhat between varieties. Most include prototype, keyword "const", enum type, and float type. All varieties create ROMable code and include cross assembler and linker.

### Cross Assembler/Linker

**American Automation** **2109-027** **595** **585**  
Cross assemblers for various chip families. Two pass cross assembler/linker produces listing, relocatable object code, cross reference, and error files. Command line options and pseudo-instruction macros. Produces ROMable code.

### AVMAC

**Avocet** **325-002** **395** **379**  
Cross assemblers for various chip families. Produces listing, cross-reference, relocatable object files. Syntax consistent within Avocet line.  
*Specify target processor.*

### C Cross Compiler Various

**Avocet** **325-022** **895** **829**  
Floating point, bit fields, unsigned char, STDIO and UNIX v. 7 I/O libraries, enum types, type checking. Source to runtime library, assembler, linker.

### C6805 Code Development System

**Byte Craft** **1988-001** **795** **689**  
Write code for 6805/6305 microprocessors in C. Has C compiler with built-in macro assembler, AI optimizer, generates ROMable code, extensive C support for interrupt routines, built-in editor, and other features. Users can insert assembly language routines in C programs.

### Z8C Code Development System

**Byte Craft** **1988-001** **795** **689**  
Optimizing C compiler that targets code to Z8 family of embedded microprocessors. Includes macro assembler, editor and integrated development environment. Produces ROMable code and has support for arrays, structures, unions, enumerated types, function prototyping, initialization of variables and interrupt routines.

### Cross-16 Meta-Assembler

**Universal Cross-Asm** **2889-001** **99** **95**  
Table based absolute cross-assembler using the manufacturer's mnemonics. Reads ASCII assembly language source file. Writes listing, Intel, Motorola, or binary hex file. Supports all of the: 180x, 3201x, 64180, 6502, 6801, 6805, 6809, 68HC11, 8048, 8048, 8051, 8085, 8096, COP400, COP800, TMS370, S8, Z8, and Z80 families.

## DATABASE MANAGEMENT SYSTEMS

Comprehensive systems for managing data. Includes tools for data file management, screen layout, data entry, querying and reports. Most DBMS's also include a control/ programming language, so that complex procedures and applications can be automated.  
*See also Dbase; SQL; Image, Sound, and CD Databases; Data File Handlers, Querying, and Reporting; CASE and Code Generators; Query Utilities.*

### Magic PC

**Aker** **812-003** **499** **489**  
Relational database engine and application developer. Includes screen, window and report editor, query and sort utilities, on-line help. Built around Btrieve library. Streamlined application design method eliminates coding. Runtime available.  
*LAN version available.*

### Magic PC LAN

**Aker** **812-002** **799** **799**  
Multi-user version of the Magic PC RDBMS. Compatible with Btrieve files.

### Paradox

**Borland** **777-104** **795** **555**  
DBMS features query by example, report/form generators, presentation graphics, crosstabs, application language for customization, import/export, automatic record/file locking. Now includes VROOM for speed and accessing up to 16M of extended/expanded memory. Create complete applications without programming.

### Paradox Multipak

**Borland** **777-106** **995** **853**  
Increases the number of simultaneous users by five.

### Clarion Personal Development

**Clarion Software** **1005-008** **79** **69**  
Create and run customized programs. Eight ready-to-use programs, quick start feature. Programs and data files upwardly compatible with Professional Developer. Has relational capabilities, functions, utilities, and development environment. Imports/exports .DBF, 1-2-3, ASCII files. No run-time licenses or fees.



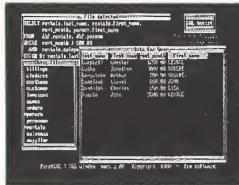
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*Fabian Pascal, DBP&D (9-90)*

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# Pascal

*For PCs and compatibles*

**Sometimes  
Less is More**

Σ  
.EXE  
Files

**QuikByte**

**Turbo Pascal**

**MS QuickPascal**

Execution Time

	QuikByte Pascal		Turbo Pascal		MS QuickPascal	
	sec	Bytes	sec	Bytes	sec	Bytes
Sieve	4.4	1682	9.2	2480	11.6	3824
Whetstone	12.9	6352	73.9	14944	60.4	15456
Quicksort	3.8	1866	5.5	2496	5.7	4544
Ackerman	4.9	1640	4.9	2368	7.8	4704
Fibonacci	15.1	1614	15.8	2352	26.4	4688
Sequ. Write	4.9	1932	16.8	2192	16.9	4224
Min	*	860	*	1312	*	1744
Σ .EXE Files	46.0	15946	126.1	28144	128.8	39184

\* Execution time-c clock resolution

QuikByte Software, Inc., 23820 Hawthorne Blvd, Torrance, CA 90505  
Phone (213) 791 2095 Fax (213) 791 2094

# C++/Views™

*for Microsoft Windows*

**C++/Views** is a development tool for C++ programmers that not only reduces the complexity of Microsoft Windows 3.0 but also slashes development time by up to 75%.

## ***Delivers on the promise of Object-Oriented Programming (OOP).***

Encapsulates more MS Windows 3.0 functionality than any other tool on the market today. Get MS Windows applications off to a fast start with a framework of over 75 tested and ready-to-go C++ classes.

## ***Has the most complete C++ class library for MS Windows Development.***

Get started with graphical user interface classes such as windows, views, bitmaps, dialog boxes, menus, popup menus, graphics, regions, pens, brushes, controls, buttons, listboxes, valuator, editors, printers and much more. Organize your data with foundation classes such as containers, collections, sets, dictionaries, files, strings, streams and so-on. Use other classes to manage the persistence of objects across files, to perform serial communications, and to activate timed events.

## ***Provides support for the entire project.***

Comes with a complete OOP development environment including the first fully functional C++ class hierarchy *Browser*. Also includes an *Interface Generator* for building C++ dialog classes and a *Documentor* for automatically producing high quality documentation of your classes.

## ***Integrates leading-edge technology.***

Combine C++/Views with Borland C++ or Zortech C++ for a cost-effective and highly productive development environment for building your next generation software systems.

## ***Pays for itself on even the smallest project.***

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BUNDLE* \$499

BRIEFor C++  
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ZINC  
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\$495  
\$1629

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**\$895**

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**T**he response to our special spring price for Borland C++ and CommonView 2 by ImageSoft was overwhelming and we thank all who participated. But we were puzzled: How could we tempt the rest of you to try this state-of-the-art programming environment for the professional software developer? Our answer – *you* choose the deal and save up to \$495!

C++ with the Zinc Interface Library, the leading user interface class library for C++ and Windows. Or get Borland C++ with BRIEFor C++, the leading programmer's editor tailored for C++. Or get Borland C++ with dANALYST Gold, the leading program analyzer and code generator for C and C++. But get it now, while these prices last!

**Act now! This offer ends July 31, 1991, and is available only through The Programmer's Shop!**

## C++ FOR WINDOWS IS HOT!

And Borland C++ is the only C and C++ programming environment for both Windows 3.0 and DOS.

### BORLAND C++ Includes:

- Compiler for both C and C++
- Turbo Driver protected-mode compiler and environment
- Turbo Debugger for DOS and Windows
- New Turbo Assembler 2.5
- Turbo Profiler and Turbo Librarian
- MAKE with Unix extensions and fast GREP utility for text searches
- Whitewater Resource Toolkit

## Two Compilers In One: C and C++

Borland C++ is two compilers in one: C and C++. C++ is the language of choice in the '90s for serious systems and applications

development and delivery. And Borland C++ contains a 100% ANSI-compatible C compiler. Because C++ is an extension of ANSI C, you can move to C++ at your own pace.

Borland C++ features precompiled headers to increase speed of re-compilation by factors. VROOMM™, our Virtual Run-time Object-Oriented Memory Manager, allows DOS applications to break the 640K memory barrier. And the Turbo Drive compiler and environment now run in protected mode, giving you maximum capacity to compile and debug large programs.

## High Productivity Platform

The Programmer's Platform™ is a powerful integrated development environment with an open architecture so you can hook in your favorite tools. It has overlapping windows and mouse support. And Turbo Help™ now includes the complete Windows Programming Reference online. The multi-file editor features undo/redo and macros for program-mability. The smart project manager is a visual MAKE utility that automatically manages and builds your projects. The Programmer's Platform integrates all the tools necessary to build DOS and Windows applications.

## New! Windows Support

Write your next generation Windows applications using Borland C++. You can create large protected-mode applications that use advanced Windows features such as the Multiple Document Interface (MDI), Dynamic Link Libraries (DLLs) and Dynamic Data Exchange (DDE).

## Free! Whitewater Resource Toolkit (SDK Not Required)

Use the included Whitewater Resource Toolkit to visually create resources such

as windows, dialogs, buttons, list boxes, edit fields, icons, and bitmaps for your Windows applications. And since the resource compiler and WINDOWS.H is included, you don't need the Microsoft® Software Development Kit (SDK).

## New! Turbo Debugger for Windows

Turbo Debugger for Windows supports Windows debugging of programs written in Borland C++ and Microsoft® C. You can view and set breakpoints on any Windows message and examine your application's local and global heaps. Turbo Debugger for Windows dynamically detects and loads the DLLs to be debugged.

Turbo Debugger for DOS and Windows both support a hierarchy browser and object inspectors. And it's the only debugger to support reverse execution, which allows you to step backwards to find bugs you may have missed.

## Turbo Profiler Finds Program Bottlenecks

Turbo Profiler helps you fine-tune your DOS-based programs to be as fast as they can be. By displaying histograms of your program's performance. Turbo Profiler lets you spot execution bottlenecks and see where redesign will yield maximum performance gains.

## New Turbo Assembler 2.5

Turbo Assembler 2.5 now has DPMI support. You can assemble the largest assembly programs and directly generate DOS and Windows code.



B O R L A N D



# Zinc Interface Library 2.0

**P**resenting Zinc Interface Library 2.0--the most powerful user interface class library available. Zinc's award-winning technology unleashes the full power and flexibility of object-oriented programming to accelerate your development efforts and enhance your productivity.

## Multiple Platform Support

Zinc 2.0 combines the run-time binding of C++ with modular display and input classes to give you plug-in support for multiple platforms with one set of source code.

## Microsoft Windows 3.0 -

Create true Microsoft Windows 3.0\* applications without learning the complexities of the Windows environment. Zinc 2.0's low-level interface to Windows 3.0 ensures maximum performance with minimum overhead.

**DOS Graphics** - Create professional-looking, graphical user interfaces in DOS Graphics mode. You don't need Windows or any other graphics-based operating system.

**DOS Text** - Automatically support 25X40, 25X80, 43X80 and 50X80 DOS text display modes with Zinc 2.0. Or create one .EXE to support BOTH text AND graphics modes.

## Zinc Designer

With Zinc 2.0's powerful new interactive design tool, you'll be building professional-looking applications in a matter of hours rather than days or weeks. A simple menu and mouse click are all that separate you from Zinc's powerful window objects.

Zinc Designer also features window, menu, input field, button and icon editors to create and modify window objects.

## Event and Window Managers

Zinc's sophisticated event manager seamlessly integrates user input from both the keyboard, the mouse and other input devices. The window manager and Zinc's support resources automatically handle mark, cut, copy and paste operations as well as event and palette mapping.

## Robust Window Objects

Zinc features a full complement of window objects including: window, border, title, maximize, minimize, system and standard buttons, date, time, string, formatted string, text, prompt, number, matrix, icon, pop-up and pull-down menus, pop-up window and scroll-bar.

## Comprehensive Documentation

Over 1,000 pages of documentation make it easy to use Zinc's object-oriented architecture. There's even a 300-page tutorial to help C programmers who are moving to C++.

**COMPATIBILITY:** MDA, HERCULES, CGA, EGA or VGA display adapters, regular or enhanced-style keyboards, Microsoft compatible mouse drivers, Microsoft Windows, Quarterdeck DESQview or IBM TopView run-time environments.



# BRIEF and BRIEFor C++: The A++ Editing Environment for C++ by Solution Systems

## **BRIEFor C++ is an object-oriented editor.**

Like all programmers, you spend lots of time editing. You want a full-screen editor with fully functional browser. Not to mention all the power and flexibility you can get.

What you need is BRIEFor C++ and BRIEF.

BRIEFor C++ tailors BRIEF, the best-selling programmer's editor, for object-orientation. It gives you BRIEF's extraordinary power and flexibility and provides full class hierarchy view, member function view, and member variable view. The browser comes and goes at your command. You can filter all views for public, protected, or private access. And you're just a click away from source.

## **View, scan, select, edit: it's fast and easy with BRIEFor C++.**

BRIEFor C++ works across multiple files. If you need files that aren't already in memory, BRIEFor C++ loads them automatically and positions the cursor correctly. Imagine having bookmarks every place you want them—simply by selecting a menu item.

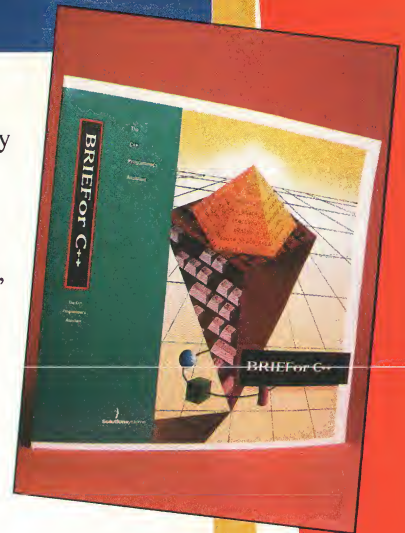
Documentation is a dream because BRIEFor C++ reports on every aspect of your objects: member functions, member variables, implementation files list, base class list, inherited by class list and hierarchy graph.

## **Save now on BRIEF and BRIEFor C++.**

It's never been easier or faster to build object-oriented programs. And it's never been cheaper. Act now to take full advantage of this special combination offer.

## **System Requirements.**

BRIEFor C++ requires BRIEF 3.0 or higher, IBM PC or 100% compatible, and 384K RAM.  
Hard drive required.



# dANALYST GOLD 5.0 by Buzzwords International

dANALYST GOLD 5.0 is the development environment for C, C++, dBASE compatibles, and Paradox. dANALYST GOLD includes a screen painter, menu generator, report writer, source code generator, documentor, indenter, beautifier, source code analyzer, programmer's editor, mouse support, and much much more.

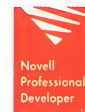
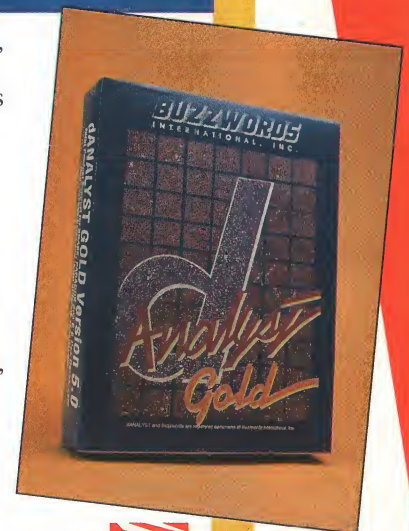
## **Support for multiple platforms and languages!**

Get dANALYST GOLD for DOS, Microsoft Windows, or Unix. Create Windows-based relational database applications without knowing the SDK. You can generate and text both single-user and network model applications while cutting your development time. And dANALYST GOLD supports the PharLap 386 and OS/386 DOS extenders.

One version supports dBASE III Plus, dBASE IV, Clipper 5.0 and Summer '87, FoxBASE+, FoxPRO, QuickSilver, dBXL, Paradox, Microsoft C, Borland C++, WATCOM 386, JPI C, Metaware High C, Microway C, Zortech C++, Novell Network C, and others.

## **Developer libraries included.**

dANALYST GOLD comes with a video and DBMS libraries. The video library has complete user interface, fast screen I/O, seamless integration with third party libraries, international language support using high bits, and mouse support. The DBMS library supports DBF, NDX, IDX, and NTX data indexes and also supports many popular third party DBMS libraries.



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# dANALYST GOLD 5.0

The Ultimate Multi-User Borland C & C++ Development Environment For Windows.

## Sample C Program Before dANALYST for C

```
#define NOTFOUND -10
typedef int darray;
int binary(x,n) /* find x in v[0] ... v[n-1] */
{
    int x,n;
    darray v[1];
    int low = 0, high, mid;
    high = n-1;
    while (low <= high)
    {
        mid = (low + high) / 2;
        if (v[mid] == x)
            return mid;
        else if (v[mid] < x)
            low = mid + 1;
        else
            high = mid - 1;
    }
    return NOTFOUND;
}
```

## Sample C Graphic Analysis After dANALYST for C

```
8 //
9 #define NOTFOUND -10
10 typedef int darray;
11 int binary(x,n) /* find x in v[0] ... v[n-1] */
12 {
13     int x,n;
14     darray v[1];
15     int low = 0, high, mid;
16     high = n - 1;
17     while (low <= high)
18     {
19         mid = (low + high) / 2;
20         if (v[mid] == x)
21             return mid;
22         else if (v[mid] < x)
23             low = mid + 1;
24         else
25             high = mid - 1;
26     }
27     return NOTFOUND;
28 }
29 // Formatted By: dANALYST for C 3.5
30 // BINARY.C: 0 Errors, 0 Warnings
```

## Supports these DBMS Engines

Does complete source code generation with network models, sets or relational DBMS interaction. Not a simple screen painter!

### XBASE

Clipper SM87, Clipper 5.0,  
dBASE III PLUS, dBASE IV, FoxBASE +,  
FoxPRO/LAN, QuickSilver & DBXL

### PARADOX

BORLAND PARADOX  
C & C++

### SEQUITER CODEBASE 4,

COPIA ACCSYS for dBASE & PARADOX,  
BORLAND PARADOX ENGINE,  
NOVELL BTRIEVE, FAIRCOM C-TREE,  
EMERALD BAY, SOFTC,  
RAIMA db\_VISTA III &  
BUZZWORDS PORTABLE ENGINE.

## Pro Video Library Included

- Complete Library Size (Large Model) under 41K.
- Complete User Interface.
- Fast screen I/O.
- Fast keyboard input via the super fast Buzzwords keyboard optimizer.
- Easy to program.
- Seamless integration with 3rd Party Libs.
- Supports DOS, XENIX, UNIX, AIX, X Windows, MOTIF, Microsoft Windows, OS/2, SUN OS, VMS & ULTRIX.
- 386 Specific Video Libs included for DOS.
- Extensive Video Caching done for terminal.
- Supported by the dANALYST Screen Painter & Menu Generator. Included with dANALYST Gold.
- International language support using high bits.
- Mouse support.
- Same code calls for all operating systems.

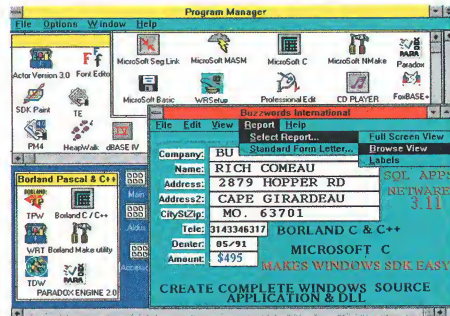
## dANALYST GOLD PRICE LIST

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Character & X Windows Versions ..... \$695.00  
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DOS Character Version ..... \$495.00  
Design royalty free applications price per developer.

- One package supports dBASE III Plus, dBASE IV, Clipper SM87, Clipper 5.0, FoxBASE +, FoxPRO/LAN, QuickSilver, DBXL, Paradox, Microsoft C, Borland C++, WATCOM 386, Jensen & Partners C, Metaware High C, Microway C, AT&T C, Novell Network C Compiler, Intel C and Zortech C++.
- Multi-user converter from single-user XBASE applications to Network ready Apps.
- You can create 386/486 specific protected mode applications.
- Creates cross reference of # define locations, variables and functions.
- Source Code Documentor/Indenter/Beautifier for these languages.
- Supports NET LIB for Clipper SM87 and Clipper 5.0.
- Enhanced manual supports all languages including Clipper 5.0.
- Relational Screen Painter and Report Writer can generate portable source code for XBASE, Paradox PAL and C & C++.
- High speed portable video Lib included for C & C++ developers.
- Includes the SoftC DBMS Lib that reads/writes DBF, NDX, IDX and NTX data files & indexes in multi-user mode.
- Color source code analyzer will reformat and indent all sources.
- Professional Edit C/C++ Source Code Editor with multiple screens included.

- Samples for XBASE, Paradox & C Microsoft Windows included. Create programs that will run under DOS, Novell, NET BIOS, XENIX, UNIX, Sun OS, ULTRIX and VMS.
- 8088 and 80386 specific versions included for enhanced speed.
- Screen Shooter included for manual prep.
- All you need is the language interpreter or compiler.
- Supports Pharlap 386, OS/386, RTLINK, PLINK 86, TLINK and others.
- Generate form letters & mailing labels.
- Standardize & reformat source code to your specifications.
- Pre-processor for C fully supported.
- Header .H processing for optional reformat.
- Tree File chart to represent flow of apps.
- Laser Printer or standard printer supported.
- Multi-user source code is always generated. Code can be run on single-user machine - giving you portability from single-user DOS, Networks or XENIX/UNIX terminal based systems.
- Menu designer creates standard menus, bar menus, pull-down menus or push buttons interfaces.
- Search & Replace menu driven system to scan complete apps for occurrences of various strings like an advanced GREP.
- Create source screens that make calls to Video Libs (Vermont Views, CSCAPE, PRO VIDEO) and all DBMS calls so that complete applications are created, not just video I/O.
- Includes Pro Video Library.

## Create Microsoft Windows Source Code Applications!



- Creates complete Windows based relational data base applications with all data entry screens and pop up dialog boxes.
- Outputs total source code from the WinMain( ) to the last line of the DLL.
- Full compatibility with Borland Paradox Engine 2.0 and Borland C/C++.
- SQL Client/Server Windows database applications for Netware 3.11 using Novell Btrieve & XQL.
- Windows applications can be generated for all supporting DBMS engines.
- MICROSOFT SDK KNOWLEDGE IS NOT REQUIRED TO CREATE WINDOWS SPECIFIC APPLICATIONS.

## Screen Shooter & Pixel Pop Included

- Capture Microsoft Windows screens to create slides or transparencies.
- It can capture screens from executing applications to aid in manual creation.
- The capture area can even be block marked so that only a window area will be captured.
- The screens captured can be output as an OBJECT file. This allows users of compilers to produce very fast DEMOS of their software.
- Object files or ASCII Text files created by the Screen Shooter are only as large as the Video Memory required to display that blocked image.
- There are also DISPLAY and PRINT modules included for instant display from languages such as dBASE and "C".
- The ASCII screens can be loaded by PROFESSIONAL EDIT, other editors, or even environments such as Ventura Publisher or Aldus PageMaker.

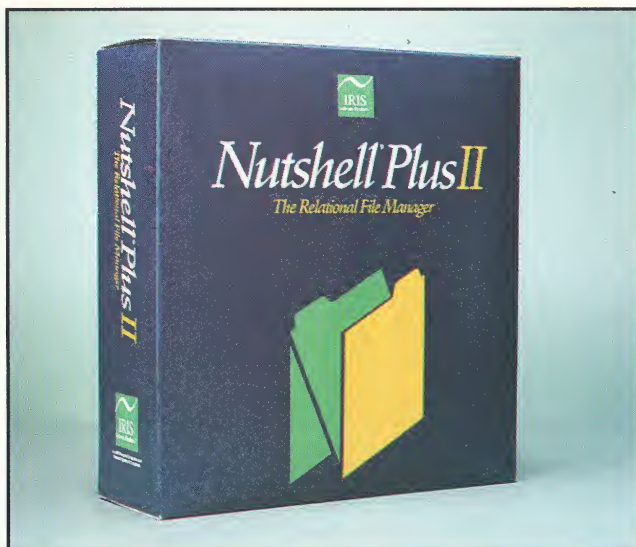


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## That's It In A Nutshell...Plus II

*Nutshell Plus II is the newest version of our relational file manager that's easy enough for novices, yet powerful enough to satisfy the most experienced user. Here are just a few of the features that make Nutshell Plus II the ultra-flexible "Swiss Army knife" of database managers:*

- Fast field definition and modification (up to 15 million characters per field!) makes Nutshell Plus II ideal for prototyping.
- Design data entry and print layouts on-screen as needed.
- Automatic indexing of all fields on data entry
- Fast, easy sorting
- Built-in data validation
- Macro support--up to 60,000 per file!
- Calculated fields. Numeric fields can be used in mixed numeric, date, and time field calculations.
- Compact data (ideal for laptops): single-file database with variable-length fields
- Import/export ASCII, dBASE II, III, IV, DIF, Merge, Filemaker files.
- Link files for complex relational database structures--data normalization and efficient database design fully supported!

Nutshell Plus II Database Interface Screenshot:

ORDER DATE: Fri, Jun 29, 1990 TIME: 14:39:45  
 INV. NUMBER: 6754 REP. ID  
 CUST. NAME: HAWSERU-DIAUTO CONSULTING  
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 ZIP: 02172  
 CONTACT: LAHAR MUNDANE  
 TEL: 617-341-1998  
 TERMS(COD/CC/NET/PP) CC  
 PAYMENT TYPE: VISA  
 SHIPPING METHOD: OVERNITE  
 DATE SHIPPED: Fri, Jun 29, 1990  
 CUST. NO.: Y33223  
 P.O. NUMBER:  
 QTY ITEM UNIT PRICE EXT. PRICE  
 3 THESE \$50.00 \$150.00  
 6 THOSE \$100.00 \$600.00  
 FREE ITEMS BELOW:  
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Summary: QUANTITY TOTAL: 9, CARD #: 1234567890123456, EXP: 10/92, AUTH #: 123456  
 DUE: \$750.00, PAID: \$0.00, BALANCE: \$750.00, DATE PAID  
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 NOTES: ATTN SHIPPING: SHIP DEMO WITH PURCHASE.

Navigation: Find Add Modify Remove Sort Output Layout Define Zoom

With all that power and convenience, plus file sizes up to 32 megabytes, Nutshell Plus II is great for beginners and professionals alike. Here's what one reviewer said:

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David Claiborne, *PC Sources*, May 1991

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## Clarion Professional Development V. 2.1

**Clarion Software** 1005-018  
Professional development system includes applications generator for creating screens, menus, windows, reports and tables. File management utility, links to C and assembler, built-in LAN support, no runtime system required for distribution. Includes Report Writer, ad-hoc query and report generator.

## Clarion Report Writer

**Clarion** 1005-016  
Menu-driven, WYSIWYG ad-hoc querying and reporting. "Join" separate files, filter records, unlimited group breaks, sort any order, use memo fields. "Free-form" or automatic field placement, "logical" printer support. Reads Clarion, dBase, dIF, and BASIC files.

## Clarion Communication LEM

**Clarion Software** 1005-001  
Asynchronous communications routines for use with Clarion. Control auxiliary devices, do terminal emulation, receive data from COM ports.

## Clarion dBASE III LEM

**Clarion Software** 1005-001  
Clarion language extension module for accessing dBase III data files.

## Clarion Finance LEM

**Clarion Software** 1005-001  
Financial calculation extension to Clarion to perform functions such as calculating interest, finding present/future value, and amortization.

## Clarion Graphics LEM

**Clarion Software** 1005-001  
Graphics add-on for Clarion. Graph types include line and circle, pie and bar charts, cartesian and polar graphs. Create Gantt or milestone charts for project tracking. Font editor with 28 fonts included. Based on DGE 4.0.

## Clarion LEM Maker

**Clarion Software** 1005-012  
Tools to create LEMs for Clarion programs using Turbo C compiler and libraries.  
*Requires Clarion Professional and Turbo C.*

## Clarion ZIP Code LEM

**Clarion Software** 1005-014  
Library and data file that allow Clarion programs to retrieve, check, and manipulate ZIP Codes. Gain access to data file sequentially or randomly by ZIP Code or city name.

## Intelligent Database

**Code Farms** 3509-013  
Object database internal to application. Based on lists, trees, graphs, hash tables, ER-models, and more. Includes instant database maker. Portable between various platforms.

## Dataflex

**DataAccess** 1166-001  
Relational database management system. Includes forms processor, text editor, applications generator, query system and compiler.

## DataEase

**DataEase International** 1909-001  
RDBMS with data viewing, editing and reporting through tables and MultiForms. No programming necessary. Also includes DataEase query language.

## Nutshell Plus II

**Iris Software** 2973-003  
Application Generator/Relational Database allows information to be extracted from more than one file at a time to generate a report, or answer a query. Search, sort and modify reports. Mailing lists, invoicing, personnel payroll, form letters and labels.

## Nutshell Plus

**Iris Software** 2973-006  
Flat file database which will let you use the same data for many different purposes, without retyping. Nutshell can summarize data and calculate subtotals. The same file can be used to send letters and create reports.

## KnowledgeMan/2

**mdbs** 1506-001  
Full-featured information management development system. Includes SQL, a powerful 4GL, and decision support capabilities (spreadsheet, graphics, reports, more).

## R:BASE 3.1

**Microrim** 1437-016  
New version includes visual, pull-down menu interface, integrated ANSI Level 2 SQL, and direct read/write of dBASE data files. Also entry/exit procedures allow users to run command files from Forms; Query-By-Example; Quick Forms; Quick Reports; and over 20 new programming language commands.  
*Network version available.*

## Mind's Eye

**Mind's Eye** 4042-001  
Graphical based object based data management system for application development. Integrates graphics, text and data with relational and hierarchical features. Hot links to 1-2-3 and dBase. Designed to support system applications involving complex relationships among hierarchically organized entities.

## Advanced Revelation

**Revelation Tech** 1924-001  
Programmable DBMS with variable-length records up to 64K, multivalued fields, more. Paint windows; reports; import/export Lotus 1-2-3, dBase III. Network support. Royalties apply.

## Open Access III

**Software Prod Int'l** 1759-007  
Network ready multifunction application development platform, built around menu-driven relational database. Includes application development language with debugger. Includes word processing, spreadsheet, graphics, MHS-based mail, appointment scheduling, telecommunications, and more. For up to 4 users.  
*Additional user packs available.*

## Open Access III Compiler

**Software Prod Int'l** 1759-010  
Professional tool for creating applications with the OA III programming language. Compiled products can be run from within OA III, or from supplied single user and network runtime. Compiled applications automatically contain full set of OA III pop-up utilities. Unlimited runtime distribution.

## Q&A

**Symantec** 1928-001  
File manager and word processor. Allows natural language queries. Create reports, forms, and mailing labels from databases. Network versions available.

## DBASE

Ashton-Tate's dBASE is by far the most widely used database management system on personal computers. Its control language, also called Dbase, and its file formats are used by the products in this category to create "dBASE clones" that in many cases enhance the original dBASE.  
*See also Database Management Systems; SQL; Data File Handlers, Querying, and Reporting; CASE and Code Generators; Query Utilities.*

## Alpha 4

**Alpha Software** 2138-004  
Menu-driven, relational database software system that directly uses .DBF files. Tool for rapid prototyping and development of many applications without programming; runtime available for distribution. End users can perform database queries, generate reports without programming support.

## db.Quick

**Alpha Software** 2138-010  
TSR database utility to browse and manipulate information stored in dBASE-format data files without exiting spreadsheet or word processing.

## dBASE III PLUS

**Ashton-Tate** 1601-004  
LAN support, assistant menu system (no programming), handle large amounts of data, import/export files, passwords, data encryption/decryption.  
*No returns unless defective.*

## dBASE IV

**Ashton-Tate** 1601-019  
Includes code generator for reports, forms, and labels. Over 310 new and enhanced commands, including SQL. Built-in compiler and context-sensitive on-line help. Shares data with Lotus 1-2-3. Multiple child relations. Screen refresh. Intuitive interface w/ menus.  
*No returns unless defective.*

## dBASE IV Developer's Edition

**Ashton-Tate** 1601-023  
Application development environment. Includes dBASE IV data management system. Programming tools, utilities, template language, royalty-free runtime.  
*No returns unless defective.*

## dBASE IV LAN Pack

**Ashton-Tate** 1601-024  
Licenses an additional 5 users to DBASE IV.  
*Requires dBASE IV. No returns unless defective.*

## Database Graphics Toolkit

**Blackhawk Data Corp** 3004-001  
Combines text and graphics in a single screen and produce hard copy. Project one or more resized images over part of a screen. Supports VGA and EGA, GIF, PCX, HPPCL. Uses 32K. Callable version for dBASE, Fox, and Clarion. Linkable version available for Clipper.

## dCLIP

**DONNAY** 1684-001  
Interactive, fully interpretive development environment for Clipper combines interactive look & feel of dBASE and Foxbase+ with power of Cont'd.



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And with Professional Developer, your applications stand the test of time. You can create new or modify existing applications, as quickly and frequently as your application needs change.

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**Clipper.** Includes Turbo like environment, true dynamic linking, runtime system, Codeview-style source level debugger, 5th generation editing and compiling, and interactive on-line tutor.  
*Source included.*

## FoxBASE+

**Fox Software** **392-011**  
All the features of dBASE III PLUS and greatly increased execution speed. Other additional features include Assistant-like menuing interface, screen painter, code generator, automatic documentor, fast filtered indices, ability to save environment, pulldown/popup menus, user-defined functions, program compiler, more.  
*Runtimes available.*

## FoxBASE+/LAN

**Fox Software** **392-011**  
Includes all the features of Foxbase+ for an unlimited number of users connected to one file server. Automatic file and record locking capabilities.  
*Runtimes available.*

## FoxPro 2.0

**Fox Software** **392-032**  
Character-based windows interface with preset popup menus for standard database functions. Command window; enhanced, user-oriented browse and edit windows; debug window; window-oriented report and label writers. Enhanced dBASE IV language, optional mouse support, increased EMS usage, more files allowed.  
*LAN, runtime versions available.*

## FoxPro/LAN 2.0

**Fox Software** **392-033**  
LAN version of FoxPro for unlimited users. Automatic file and record locking.

## Clipper 5.01

**Nantucket** **1139-003**  
Open architecture database programming system using Dbase datafile structure. User-definable commands and functions. Programming language allows integration of code from other languages. Compiler generates .EXE files. Replaceable database driver. Overlay linker. Network support. SQL support.

## Force

**Sophco** **341-008**  
dBASE compiler generates native machine code. Call C and Assembler routines directly. Produces Intel format object modules. Supports conditional compilation, include files and #define statements. Supports dBASE commands and adds enhanced features.

## Sunshow Database Pro

**Sun Country Software** **1629-001**  
Image processing database add-on, stand alone view utility. Links into most dBASE compatibles and will display most graphics formats on most displays. Version available for Targa boards.

## T-BASE

**Videotex Systems** **2053-006**  
Add .PCX pictures to Clipper, dBASE, FoxBASE databases. Supports most video modes. Picture display with 40 or 80 column text; pop-up any size picture windows in any position; print screen snapshots, text, or pictures to an HP LaserJet II. Supports scanned documents, 1024x768. Multiple pictures on screen. No royalties.  
*Requires Clipper, dBASE, or FoxBASE.*

## Quicksilver/SQL

**Wordtech** **971-033**  
Compiler allows dBASE applications to communicate with Gupta's SQLBase through implementation of Invisible SQL and Embedded SQL. Translates dBASE commands into SQL commands. Allows SQL queries to be explicitly formulated within dBASE applications. Creates executables which do not require runtimes or royalties.  
*Requires Gupta's SQLBase.*

## dBXL

**WordTech Systems** **971-017**  
Compatible with dBASE III PLUS files and syntax. Various extensions included; up to ten files open at once. R&R Relational Report writer included. DOS access, improved printer control.  
*Network version available.*

## Quicksilver

**WordTech Systems** **971-005**  
Compiler to convert dBASE III PLUS or dBXL programs into executable code. No runtime necessary. R&R Code Generator included. Other advanced features. Compiles LAN versions.

## EXPERT SYSTEMS

Systems for transferring a knowledge base of human expertise to the computer. These systems use artificial intelligence techniques to store data and generate rules of inference, thus duplicating as much as possible the functioning of a human expert.  
*See AI and Object-Oriented Libraries; LISP; Prolog; Hypermedia.*

### 1st Class

**AI Corp.** **335-002** **995** **925**  
Non-procedural development tool to build procedural, configuration, and diagnostic applications. Based on expert system technology that uses induction and decision trees to generate rules. Automatically create questions and answers to advise users. Supports forward and backward chaining through multiple knowledge bases.

### Exsys Professional

**Exsys** **44-006** **795** **695**  
Includes all the features of Exsys plus a command language, dBASE III and Lotus interface, rule compiler, input screen support, additional confidence modes, array functions and hypertext capability.

### KnowledgePro

**Knowledge Garden** **1419-003** **495** **419**  
Tool for communicating expertise using the computer. It combines a high level, object oriented programming language with hypertext and expert system technology.

### Guru FirstStep

**mdbs** **1506-010** **895** **799**  
Application development system with expert systems tools. Relational DBMS, SQL support, 4GL, forms management, report generation, remote communications, spreadsheet, text processing, graphics, more with seamless integration. Open architecture. Menu, direct command, natural language interfaces. Set rules.

### Personal Consultant Plus

**Texas Instruments** **249-003** **2,950** **1,633**  
Expert system design tool for creating large knowledge-based systems. Can use 286/386, extended or expanded memory. Interfaces to PC Scheme, C, Turbo Pascal.

### Procedure Consultant

**Texas Instruments** **249-009** **605** **495**  
Automate complex business procedures, policies and diagnostic/repair problems without AI background. Access DOS programs, upwardly compatible with Personal Consultant Easy or Plus.

### NeuroShell

**Ward Systems Group** **1751-001** **195** **179**  
Neural network shell, uses the back propagation network technique. Neural network is "trained" through examples. Works well with fuzzy logic.

## FORTH

A language for gaining direct control over nearly every aspect of the machine. Very extensible, FORTH allows a programmer to essentially create his own language out of primitives. FORTH is a threaded interpreter which incrementally compiles its code for maximum flexibility without sacrificing performance.

### HS/FORTH Personal

**Harvard Softworks** **423-003** **245** **229**  
Includes the HS/FORTH student system plus an optimizer and floating point manipulation.

### HS/FORTH Production

**Harvard Softworks** **423-003** **499** **489**  
Complete Professional system with ROM and graphics support. Includes metacompiler.

## FORTRAN

Developed in the 1950s as the first high-level language. Due to continuing refinements, it is still the language of choice for many scientific and engineering applications.

### F77L

**Lahey Computer Systems** **334-004** **595** **549**  
Includes debugger, editor, profiler, linker, library manager, make utility, Weitek support, video graphics. DO WHILE and END DO statements and additional VAX and IBM VS functions. Full ANSI 77, MS C and Turbo C interfaces, diagnostics, and popular mainframe features. New Fortran 90 features like block names.

### Personal FORTRAN w/Toolkit

**Lahey Computer Systems** **334-008** **129** **119**  
ANSI 77 FORTRAN compiler for programs 64K or less. Includes editor, debugger, linker, and library manager. Toolkit library includes video graphics, break handling, system subroutines, I/O, random number generator, boolean functions, bit shifting, and more.

### FORTRAN Optimizing Compiler

**Microsoft** **502-028** **450** **309**  
Full ANSI 77 standard compiler, supports both DOS and OS/2. Includes many VS and VAX extensions, GSA certified error-free. Comes with editor, linker, librarian, make, and CodeView debugger. Overlay linker allows large programs under MS-DOS.



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## NKR FORTRAN Compiler

NKR Research

2033-001

Globally optimizing compiler with VAX/VMS FORTRAN extensions. Conforms to ANSI 78 and MIL-STD-1753 standards. Seamless UNIX integration, compatible with host debugger, extended data types and operations, and other extensions. Call programs in other languages without interfacing subroutines.

## RM/FORTRAN

Ryan McFarland

437-009

Full ANSI 77 standard, includes popular extensions from VAX, VS, and 66 standard. Code optimization, floating point coprocessor support/emulation.

## WATCOM FORTRAN 77

WATCOM

1044-014

Optimizing Fortran 77 compiler uses register allocation and code generator optimizations to produce 16-bit 80x86 code. Offers protected mode, SAA compatibility, GKS graphics library, debugger, overlay and remote debugging, profiler. Includes OS/2 support.

## WATFOR-77

WATCOM

1044-016

Integrated compiler, editor, debugger. Compiles source directly into memory, automatically links and executes. Interactive debugger with problem-solving aids. Supports ANSI FORTRAN X2.9-1978 and many enhancements. WATCOM GKS Graphics library of ANSI standard routines. Runs compatibly on PCs, IBM mainframes, and DEC VAXs.

## MULTI-MEDIA DATABASES

Database management systems incorporating images or sound, or designed for implementation on a large storage device such as a compact disk. See also *Database Management Systems*; *SQL*; *Graphics Libraries*; *Presentation Graphics*; *Prototypers and Demo Builders*.

## HyperPAD

Brightbill-Roberts

1104-003

Object-oriented authoring environment with HyperCard-like features for customizing DOS or front-ends to interfaces. Uses HyperTalk-like scripting language. Supports external funtions written in C, Assembly. Includes pads for DOS, billing, more.

## HyperBase Developer

Cogent Software

397-004

HyperBase Personal plus unlimited runtime distribution package and data encryption utility. No royalties.

## KAware DISK PUB/TextImage

Knowledge Access

1964-001

Prepare, index and access free-form text databases on optical storage media: CD-ROM, WORM, or rewritable disk. Accepts information from word processors, DBMS's, spreadsheets, and scanners. Retrieval system features keyword/hypertext/Boolean searching, menus, windows, notes. Can integrate image data.

## Laser/Works EMV

LaserLaw

2721-001

Data indexing, retrieval for MS-DOS; CD-ROM, WORM, network, erasable, hard and floppy disks; 3-5% maximum index overhead. Features: 42 million fields indexes, datasets; append to update. Retrieval features: Boolean searches, exclusive internal edit search functions, more. Royalties on retrieval package.

## Showcase Image Database

Sun Country Software

1629-010

Easy to use high resolution image database for scanned or video capture. TGA, GIF, PCX, Animator .FLI. Zoom, scale, pan. 3-D buttons to 1024x.

## LISP

A language for processing symbol sequences ("lists") rather than numbers, LISP uses the same constructs to handle instructions and data. New language elements can be defined by the user. LISP is heavily used for artificial intelligence applications. See also *Prolog*; *AI and Object-Oriented Libraries*.

## Gold Hill GCLISP 1.1

Gold Hill Computers

54-001

Training and development package based on major, lexically scoped subset of Common LISP. Includes San Marco LISP Explorer (60 lesson self-guided LISP tutorial with examples), interpreter, EMACS-style editor, debugger, on-line help, and DOS file/program execution support.

## STAR SAPPHIRE COMMON LISP

Sapiens Software

669-003

Common LISP implementation. Includes incremental compiler, interpreter, EMACS, 500K of hypertext help, and code samples. Provides 5M workspace using virtual or extended memory. Graphics support. Requires 640K, hard disk.

## PC Scheme

Texas Instruments

249-007

Dialect of Lisp. Includes editor, debugger, and incremental, optimizing byte-code compiler. Graphics, windowing, and math coprocessor support.

## MODULA-2

Advanced version of Pascal developed by the inventor of Pascal. Has the power of C with a much simpler syntax. Modular programming allows separate compilation. Strong type checking, concurrent routines, interrupt handling.

## TopSpeed Modula-2

Jensen & Partners

1159-001

Optimizing Wirth standard Modula-2 compiler with OOP extensions, multi-window/multi-file editor, automatic make, uses JPI's generic code generator, passes parameters in registers, common sub-expression elimination, and more. Hypertext help, visual interactive debugger, and JPI and Wirth libraries.

## TopSpeed Modula-2 Extd.

Jensen & Partners

1159-012

Standard version plus support for MS Windows programming, DOS dynamic link libraries, full source code to libraries, assembler that generates libraries directly, disassembler, execution profiler, code locator, watch utility, post-mortem debugger, and more.

## Professional Modula-2

Stony Brook Software

1046-006

Development system. Includes QuickMod and "turbo" compilers, runtime library, DOS linker, more. Runtime library source available.

## OBJECT-ORIENTED LANGUAGES

In object-oriented programming (OOP), a data structure and the code needed to manipulate the data are combined into an object. Objects are hierarchically organized to be instances of classes, so that a new object can be easily created, passed, or modified. See also *AI and Object-Oriented Libraries*; *C++ Language*.

## Smalltalk/V

Digitalk

38-001

Object oriented programming language. Mouse interface, graphics, windows, and source-level debugger. Royalties apply.

## Smalltalk/V 286

Digitalk

38-001

Smalltalk/V programming language plus a DOS extender. Create more complex objects. Faster graphics and windowing, integrated color. Push button debugger. Requires a 286 or 386 machine.

## Smalltalk/V Goodies #1

Digitalk

38-004

Utilities for multiprocessing, object loading, DOS interrupts, forward chaining. Complete source included. Requires Smalltalk/V or Smalltalk V/286.

## Smalltalk/V Goodies #2

Digitalk

38-004

Tools include spelling checker, bitmap printer, random number generator, pretty printer. Complete source included. Requires Smalltalk/V or Smalltalk V/286.

## Smalltalk/V Goodies #3

Digitalk

38-004

Includes 3D editor, directed graph browser, class matrix, neural network application, and chess game. Complete source included. Requires Smalltalk/V or Smalltalk V/286.

## OTHER LANGUAGES

## Alpha RPL Developer

Alpha Software

2138-009

Language for creating memory resident applications. Complete TSR programming environment including editor, debugger, and library manager. Automate complicated or repetitive tasks. Integrate various applications under common interface. Interpreted language contains over 230 commands and functions.

## PC Logo

Harvard Associates

459-001

Full Logo implementation features turtle graphics, DOS, BIOS and assembly calls. Includes tutorial, reference manual, sample programs and utilities diskette.

## RPG II Development Sys.

Lattice

72-042

IBM System/36 version 5.1 compatible compiler, EBCDIC and ASCII support, dBASE III file compatibility. Includes Screen Design Aid, Sort/Merge Utilities, GSORT, OCL Processor Source Entry Utility.

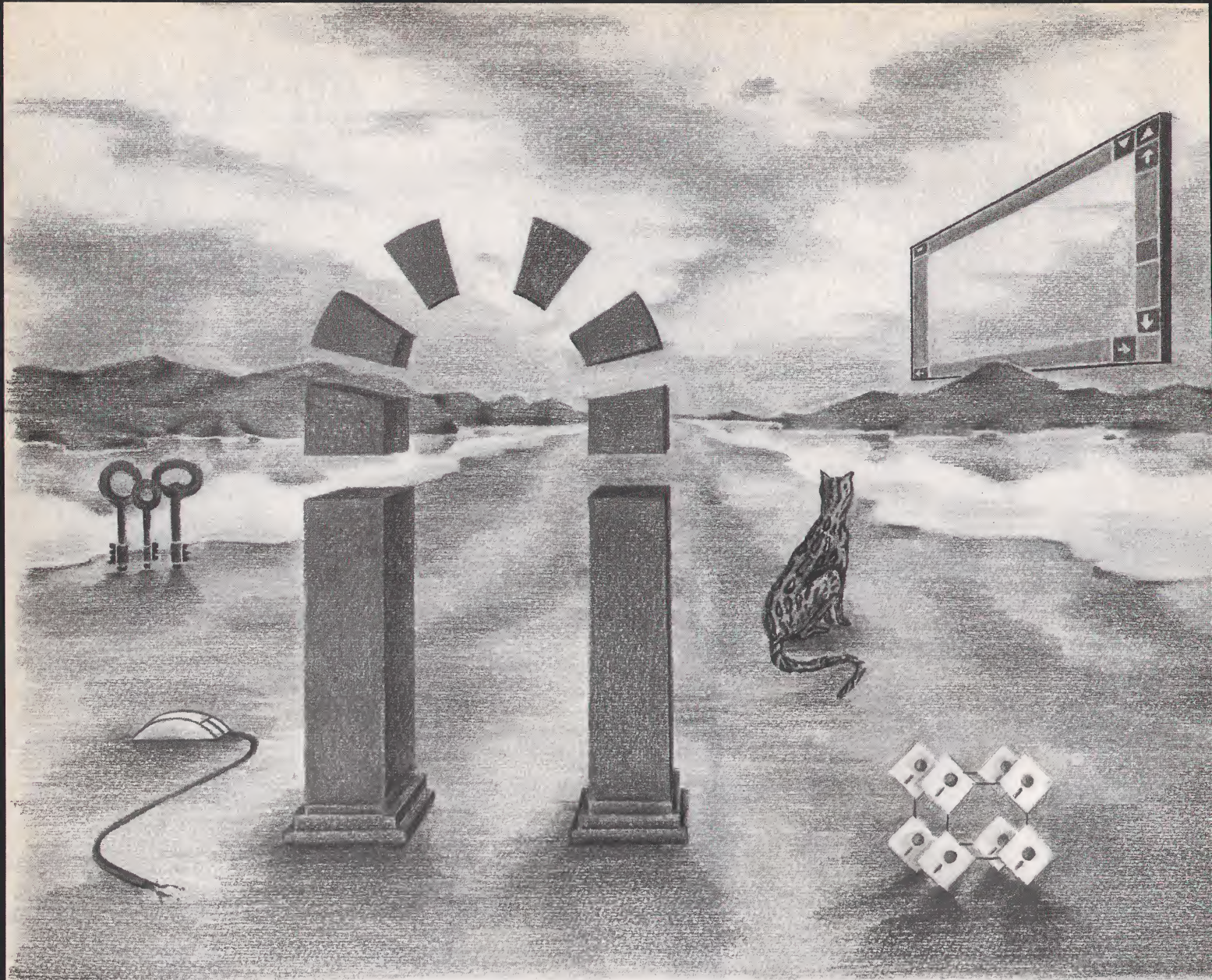
## LPI-PL/I

LPI

69-013

Full implementation of ANSI 1981 General Purpose Subset. Language extensions improve compatibility with IBM and VAX dialects. Local and global optimization. Interface with existing system libraries, providing access to such resources as DI-3000 graphics and FORTRAN-compiled statistical analysis packages. Requires 386 machine.





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## **How the Programmer's WorkBench gives you more time to build your C application.**

The Programmer's WorkBench (PWB) is your development control panel. With the timesaving tools and invaluable information it puts right at your fingertips, you'll go from initial design to polished application faster than ever before.

### **The Programmer's WorkBench includes an editor, compiler, linker, MAKE facility, debugger, and browser:**

- The PWB editor includes recordable macros, multiple-level undo, reassignable keys, and multiple editing windows. Disk space is the only limit to file size.
- PWB's optimizing and incremental compiler and linker give you the flexibility you need for the results you want. For superfast results, use quick compile (on a 386 over 80K lines per minute!) with incremental compiling and linking.
- The NMAKE facility is a superset of the powerful Xenix MAKE facility. Let the PWB build your makefiles.
- PWB's CodeView window-oriented debugger has been completely redesigned and is more powerful than ever with a clear, easy-to-use, multi-window interface. Debug DOS applications of any size on a 286. Improved OS/2 support makes it a cinch to debug PM applications, multithreaded applications, DLLs, and multithreaded DLLs. View local variables in an automatically updated Local window, display multiple memory regions, browse structures and arrays interactively, watch your coprocessor's status during execution. You can even record and replay sessions dynamically, and undo your last action.
- PWB's source browser creates a program map for easy navigation through any application. It also provides a wealth

of information about program structure and relationships between functions, variables, typedefs, and macros.

- Comprehensive, hypertext-based documentation provides complete information about C, the PWB, run-time library routines, constructs, and utilities. It also gives you lots of examples for you to copy and paste into your own code.

PWB has great mouse support, too. All tools support DOS, MS Windows, and OS/2 PM development and are accessible from one easy-to-use interface. They work together so you can work efficiently.

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Microsoft C's sophisticated optimization produces smaller, faster code than ever before. Improvements include:

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- a new pragma that gives you function by function optimization control
- global register allocation
- support for long-doubles and nameless structs and unions
- new, in-line assembler
- smaller run-time libraries

The Microsoft C Professional Development System provides the most productive C development environment available for creating applications for DOS, Windows, and OS/2 PM. You spend less time to produce faster, more reliable code. For professionals, it's the only C solution.



# Support for MS C 6.0 QuickHelp Makes BRIEF the Perfect Power Editor for MS C Developers

## BRIEF™

### Do It Faster with BRIEF

- Microsoft and compatible mouse driver support speeds editing sessions
- All files and macros cached in EMS
- New redo lets you put back what you took out

### Spend More Time Programming

- Supports MS C 6.0 compiler out of the box
- Supports MS C 6.0 QuickHelp
- Compile from within BRIEF—no need to exit and reload
- Edit an unlimited number of files
- Template editing & smart indenting for major languages

### Everything You Need in an Editor is in BRIEF

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- Complete search/replace capabilities
- Editable keystroke macros
- Unlimited windows
- File size limited only by disk space (2 billion lines/file)
- Dialog-box support
- Supports any text mode your display card supports

### Completely Reconfigurable

- C-like macro language with source level debugger
- Configure the keyboard to your preference
- Menu-driven setup program
- Source to all macros is included
- Configurable mouse support

### Improved Windows

- Scroll bars
- Zoom button
- Close button
- Improved resizing

### Intuitive, Easy to Use

- Beginner's tutorial
- Comprehensive documentation
- Context-sensitive, on-line help
- Mnemonic key assignments

### Make BRIEF the centerpiece of your MS C programming environment.

**BRIEF** is a fast, flexible and powerful editor. From **BRIEF**, you can jump right into Sourcerer's Apprentice—Version Control for the Professional and **CHARGE**—The Software Performance Analyst, a code profiler, both from Solution Systems. And with full support for Microsoft C 6.0 QuickHelp, **BRIEF** is an integral component of the Programmer's WorkBench.

### BRIEF is built on a flexible framework that you control.

**BRIEF**'s configurability is without equal. Tailor it to your compiler and editing style through its menu-driven Setup program. Then use **CBRIEF**, **BRIEF**'s powerful, C-like macro language, to customize even further. Even **BRIEF**'s mouse support is configurable. The right hand mouse button yields a user-configurable, pop-up menu window that lets you execute any **BRIEF** command you wish, right from the window you're working in.

### BRIEF speeds you on your way with EMS caching, undo and redo.

**BRIEF** takes advantage of EMS whenever it reads in a file.

The result: faster performance, whether you're editing a file or running a macro. Large files are read more quickly, and macros are held in memory throughout your editing session.

You'll really come to rely on **BRIEF**'s powerful undo and redo. Undo any command that affects cursor or text (a global replace, for instance) and continue to undo—even back to the beginning of your session. Redo matches undo step for step for even greater flexibility.

With this much power and flexibility at your command, you'll soon see why **BRIEF** has been the editor of choice for PC programmers around the world since 1984.

#### System Requirements

IBM PC, AT, and 100% compatibles. 256K RAM and two disk drives.

*"I use the Programmer's WorkBench and I'm heavily into Microsoft C 6.0, so I like the hooks into the workbench and the Microsoft QuickHelp system. The great thing about BRIEF is that it works great. I just use it and I don't have to worry."*

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## Personal REXX Mansfield Software

298-002

IBM SAA and VM/CMS REXX command/macro language for PC's with additional PC-based functions. Also interfaces with KEDIT editor and Quercus' REXXTERM communication package.

150 139

## PASCAL

A structured, highly typed language. It is widely used in universities and is also popular with professional developers.

See also Cross Assemblers and Cross Compilers.

## Turbo Pascal Borland

777-109

Integrated environment includes compiler, editor, debugger, make, more. EMS support for overlays and editor; 8087 floating point emulation. Cross-indexed help. Includes Turbo Vision object-oriented application framework. Inherit multiple windows, pull-down menus, dialog boxes and mouse support. Many sample programs.

149 107

## Turbo Pascal Professional Pak Borland

777-108

Complete Turbo Pascal package plus Turbo Debugger and Tools. Includes protected mode version of compiler.

300 248

## Professional Pascal x86 MetaWare

89-004

Optimizing Pascal compiler. Linkable with C and other languages. C-like bit manipulation. Variable-length strings. C-like extensions. Error checking. Supports all major floating point processors, including Weitek. Generates 16-bit protected mode code for OS/286 and DOS16M.

495 439

## Quick Pascal Microsoft

502-084

Object oriented extensions. Complete source level compatibility with Turbo Pascal. Integrated environment with editor, debugger and hypertext online help.

99 69

## QuikByte Pascal QuikByte

2717-001

Optimizing, 5-pass compiler with external data flow analysis, dead code removal, loop improvement. Switch select ISO/ANSI. MS object code interface to MASM, C, BASIC, FORTRAN, COBOL. Optimizing linker; disassembler; library, graphics, and OS functions. User-selectable optimization levels; math library.

149 129

## Turbo-SC QuikByte

2717-003

Source to source translator from Turbo to QuikByte Pascal. Intel/MS object code compatibility; link to MS C and MASM libraries. ISO/ANSI standards with extensions.

144 125

## QuikByte Profi-Combo QuikByte

2717-005

Combination of QuikByte Pascal and Turbo-SC.

270 249

## PROLOG

A language for processing symbolic sequences; heavily used for artificial intelligence applications.

See also LISP; AI and Object-Oriented Libraries.

## PDC Prolog Compiler Prolog Development

2135-001

Incremental compiler, editor, graphics, and windowing. Supports B-trees and EMS. Trace by predicate and set trace points. Multilanguage support. Exception handling and error trapping. Available for OS/2.

249 239

## PDC Prolog Toolbox Prolog Development

2135-005

Design screens, windows, graphics. Import files from dBASE or spreadsheets. Includes parser generator, mouse support, serial communications.

125 119

## STRUCTURED QUERY LANGUAGE

Structured Query Language is a standardized database management language which has migrated from mainframes and minis to PC's. SQL can be used interactively or embedded in a program in a lower-level language.

See also Database Management Systems; Dbase; Data File Handlers, Querying, and Reporting; Query Utilities.

## Paradox SQL Link Borland

777-105

Front end enabling Paradox users to access SQL data stored on minis, mainframes, and database servers without knowing SQL. Full access to stored procedures, triggers, data dictionaries. Developers can embed native SQL statements within PAL programs too.

Requires IBM Extended Ed., SQL Server, or Oracle server.

495 437

## Integra for dBASE Coromandel

1738-015

dBASE developer's tool for moving to SQL or speeding dBASE queries and reports. Includes gateway to dBASE, SQL-based ad hoc query facility with view support, query optimizer, data dictionary, and event-driven report writer. Use SQL to perform ad hoc queries and generate reports directly from dBASE files; no converting/import.

295 229

## Integra SQL RDBMS Coromandel

1738-003

Relational database with interactive SQL, an SQL/API for application development using SQL and C, relational report writer that supports embedded SQL SELECT statements and multiple gateways for direct access to data from Dbase and Btrieve files. Versions available for Windows and UNIX.

695 685

## FirstSQL

FFE Software

1940-001

Relational DBMS provides ANSI level 1 and DB2-compatible SQL, complete 4GL with window facilities, direct access to dBASE files. SQL Assist menu-based query builder; DDL SQL standard language for database description; security features; referential integrity; 'maybe' queries; context sensitive help.

495 348

## FirstSQL-C

FFE Software

1940-003

Embedded SQL, precompiler for C. Create portable applications. Query optimizer. Integrity of data, indexes. Compatibility with ANSI, DB2, and Oracle embedded SQL.

Single user version.

295 285

## Informix 4GL Informix Software

434-001

Fourth generation language designed for application building. Features for windows, screens, reports, menus; SQL database I/O capabilities. Recompiles RDS source code into standard C code for increased speed. Portable across 450 hardware platforms.

Specify machine. No returns.

995 929

## Informix 4GL RDS/ID Informix Software

434-022

Interpreted version of 4GL with interactive debugger. Advantages include reduced compilation time, easier portability, no need for external compiler and linker. Debugger allows user to view running application and its source code simultaneously. No returns.

1,095 1,029

## Informix ESQL/C Informix Software

434-001

Embedded SQL for C. Build applications in C and take advantage of SQL at the same time. Create tables, add indexes, and perform data definition functions. SQL statements are converted automatically through a pre-compiler. Versions available for Fortran, Cobol, Ada.

Specify C compiler and memory model. No returns.

595 559

## Informix SQL Informix Software

434-001

SQL-based relational database management system. Includes menu creator, data definition language, forms generator, SQL editor, and report writer. Prototype applications without writing code. Completely compatible at database level with other Informix products. Versions available for Unix, Xenix, OS/2.

Royalties apply.

795 749

## Sculptor 4GL+SQL Development

MPD International

1676-002

Develop applications in DOS and move compiled code and data to over 100 other computer platforms including networks, XENIX, Unix, etc. Compiled applications and Data Files are Binary Transportable. Runtimes required for distribution.

795 779

## Sculptor 4GL+SQL Runtime

MPD International

1676-004

Allows distribution of application developed with Sculptor to one user on any platform.

280 259

## Ocelot 2 SQL

Ocelot

2800-001

DB2 compatible SQL relational database. Includes interactive, command driven SQL interface for on-line queries, SQL precompiler for various languages, report writer, and database library. Compiles with full ANSI Standard for SQL. Includes source code for report writer.

Single user version. Multiuser license available.

195 179

## Oracle Tools

Oracle

1922-005

Includes SQL\*Plus, an ANSI-standard SQL query tool; SQL\*Forms; an interactive development environment; SQL\*Menu, a 4th generation menu tool; SQL\*ReportWriter; Client Manager.

Requires Oracle Tools and Database (Prof Oracle).

799 749

## Pro\*C

Oracle

1922-008

C language precompiler and subroutine call interface to Professional ORACLE. Embed SQL calls in C programs; link C programs into ORACLE SQL\*Forms applications; protected mode debug utility for C programs.

Requires Professional ORACLE.

399 379

## Professional ORACLE

Oracle

1922-002

PC port of database management system that runs on over 80 different platforms. Full featured database language is exactly the same on all platforms. Use up to 1M for program code and 15M for data. Works with PC LAN servers; runs true distributed applications.

1,299 1,219

Languages



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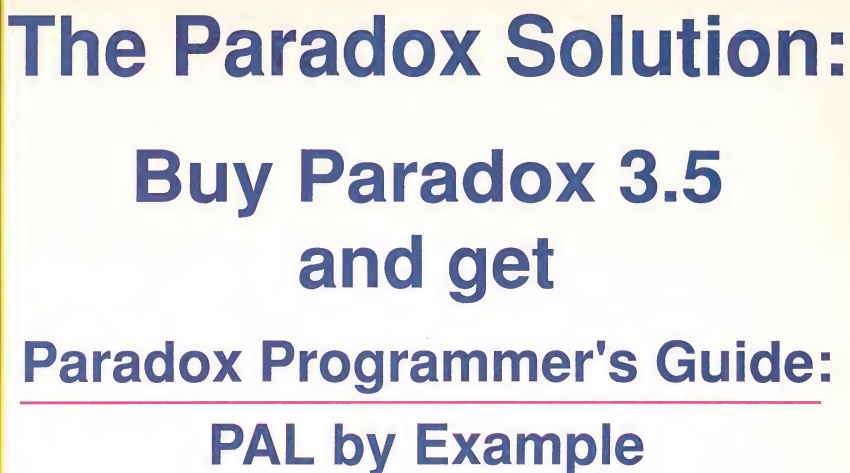
  
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## COMMUNICATIONS LIBRARIES

Libraries that allow you to communicate with other computers and systems through the communications ports.

See also *Communications: Applications; Modem and Fax Boards; Network Hardware; Network Software.*

## BASIC

## ProBas Telecom Toolkit

Hammerly Computer 1164-001 75 75

Routines for XMODEM, MODEM7 Batch, YMODEM, and YMODEM batch file transfer; VT52, VT100, and ANSI-BBS terminal emulation; baud rates up to 115200 bps; command processor; script language; dialing directory; autodialing; and popup menus and status windows. Full commented BASIC source code included. No royalties.

Requires ProBas library.

## QuickComm

Software Interphase 1040-002 139 129

Simultaneously monitor up to 16 serial ports. Ring-buffered, interrupt driven. Dial-out, connect, disconnect. XMODEM, YMODEM, XON/XOFF.

Supports QuickBASIC and MS Professional Basic.

## C

## C Asynch Manager

Blaise Computing 269-001 189 149

Provides interrupt-driven and polling control over communications ports from application programs. Drives most asynchronous devices. Functions aid user in developing commonly required communications applications. Includes source code. Supports XMODEM, Hayes, and XON/XOFF. No royalties.

Supports Microsoft and Turbo C.

## Comm Library

Greenleaf Software 55-085 359 329

Asynchronous communications library, over 120 functions, supports XMODEM, YMODEM, ZMODEM, Kermit, XON/XOFF and RTS/CTS, Control-Break trapping. Supports Hayes; DigiBoard and other multiport boards; 35 ports at up to 115,000 baud. Includes source code.

Specify C or C++ compiler.

## C Communications Toolkit

Magna Carta 1438-005 149 139

Asynchronous communications library. U(S)ART support; up to 115.2K baud; ASCII, XMODEM(/CRC), Kermit, YMODEM; emulates VT52/100; RTS/CTS, DTR/DSR, XON-XOFF; Hayes, Teletype modems; reception, transmission, RS-232 interrupts; 64K buffers; supports DigiBoard, others. Supports CAS compatible FAX cards. Full source code.

Supports MS/Quick C, Turbo C/C++, Watcom C.

## C Communications Toolkit Professional

Magna Carta 1438-011 300 279

All features of C Communications Toolkit plus VT220 emulation, network modem support for NetBIOS and Novell networks, Windows 3.0 compatibility, Zmodem file transfer, SpeedPacket proprietary protocol.

## C Communications Toolkit Professional/386

Magna Carta 1438-013 500 469

Same as Professional version plus support for Watcom C 386 and Metaware High C 386/486.

## SilverWare C Asynch Library

SilverWare 767-001 249 239

Interrupt driven, asynchronous communications library for C. Provides ANSI and TTY terminal emulation. Supports DigiBoard 8 and 16 port, AST Four Port, and IBM Dual Async Adapter. Supports XMODEM, YMODEM, and ASCII file transfer, Micro Channel, 16550 UART. Norton Guide database. Source included; no royalties.

Supports most popular C compilers.

## Essential Communications

South Mountain Software 42-011 329 249

Interrupt driven asynchronous communications library for C on both the receive and transmit sides. Runs at baud rates up to 115K with up to 34 ports and buffers to 500K. Supports V.32, MNP and Hayes compatible modems; XON/XOFF, XMODEM, YMODEM, KERMIT and ZMODEM protocols. Includes ANSI and VT 52/100 terminal emulations.

## CLIPPER/DBASE

## Comet

CompuSolve 3221-001 99 99

Background communications library for dBase compatibles. Transfers files in background while application is running. Supports up to 38,400 baud. Protocols include XMODEM/CRC, YMODEM batch, and ASCII. Written in assembly. Uses only 20K. Supports Dbase III/IV, FoxPro, Clipper, or any dBase compatible.

No royalties.

## Comet MP

CompuSolve 3221-002 169 169

Same as Comet but supports multiple serial ports. Supports DigiBoard and AST Research multiport boards.

Requires dBase, FoxBase or Clipper.

## CommTools for Clipper

Pinnacle 1235-017 299 269

For dBase compatibles. Supports XModem, Kermit, YModem, XON/XOFF, RTS/CTS, DTR/DSR. Address up to 16 com ports at 115K. Simultaneous background operation. TTY, ANSI.SYS, VT52/100 terminal emulations; fax support. Wide peripheral chip set support available.

## SilverComm

SilverWare 767-014 249 229

Interrupt driven communications library for dBASE compatibles. Routines for disk I/O, keyboard input, screen/printer output. Supports XMODEM and YMODEM protocol.

Specify Clipper, dBASE or other compatible.

## Silvercomm C Interface

SilverWare 767-011 99 99

Addon package for SilverComm communications library allows Clipper programs to access SilverComm functions from C.

Requires SilverComm 2.0, Clipper Summer 87, and MS C.

## MANY/OTHER

## VistaKIT

Control Data 2996-010 1,000 949

Micro applications developer's kit. Libraries for developing distributed applications in C or Cobol providing access to local or remote sequential files and ORACLE or DM database files. Requires mainframe ORACLE for ORACLE access. Requires VistaCOM V or VistaCOM VII on each PC.

## Solid Link

Solid Software 2716-003 199 189

Supports COM1-COM8 with multiple ports active at same time. Each port interrupt-driven, separate I/O buffers to 64K. XMODEM, YMODEM, ZMODEM, more. ZMODEM 30% faster than XMODEM, operates over networks, 32-bit CRC on data and handshaking, recovers partially transferred files. Assembly coded; many protocols; checking.

Specify MS, Turbo, Zortech C; StonyBrook, JPI, Logitech Modula-2; Zortech, Turbo, Borland C++.

## COMM-DRV

Willie's Computer SW 2941-001 159 149

True DOS serial I/O device drivers, serial I/O source libraries, serial I/O Microsoft object libraries, and serial port monitor. Supports background processing, IRQ0-IRQ15, COM1-COM25, up to 115.5 baud, INT14h, FOSSIL, multiport cards, XON/XOFF, RTS/CTS handshake, and adjustable buffers.

Supports any compiler capable of generating interrupts.

## PASCAL

## Asynch Plus

Blaise Computing 269-012 189 119

Interrupt-driven, polling control over communications ports from applications programs. Drives most asynch devices. Supports YMODEM, XMODEM(/CRC), Hayes, XON-XOFF, RTS/CTS, DTR/DSR, text file device drivers, hardware hand-shaking. With POWER TOOLS PLUS, supports XMODEM/YMODEM in background. No royalties.

Supports Turbo Pascal or Quick Pascal.

## DATA FILE HANDLERS

Libraries for generating and maintaining database files from general programming languages such as C. These libraries provide increased flexibility and speed compared to database management systems, in return for increased development time.

See also *Database Management Systems; Dbase; SQL; Data File Querying; Data File Reporting; CASE and Code Generators; Query Utilities.*

## BASIC

## db/LIB Database Library

AJS Publishing 1302-001 99 89

Access dBASE III+ files from QuickBasic. Includes routines corresponding to many dBASE functions: browse, append, etc. Built-in database query system to select records and more. No royalties.

Requires Quick Basic.

## QBase

Crescent Software 716-003 199 189

Basic subroutine library for screen design and relational database management. Full source included.

## BTRIEVE

## EZedit

First Choice 2699-002 129 119

Btrieve function/file editor allows user to perform all supported Btrieve functions. Can have up to 3 files open at same time and displayed in separate windows. File editing supported. Utilities for creating empty Btrieve files, recovering corrupt Btrieve files and compressing Btrieve files also included.

Requires Btrieve 3.0 or later. LAN version available.

## Btrieve Starter Kit

Norcom 649-001 150 139

Allows COBOL programs to use Btrieve. Quick conversion for ISAM con'd.



Windows 3.0 DLL  
Now Included!  
ROYALTY FREE

# Objective dBASE programmers try C++

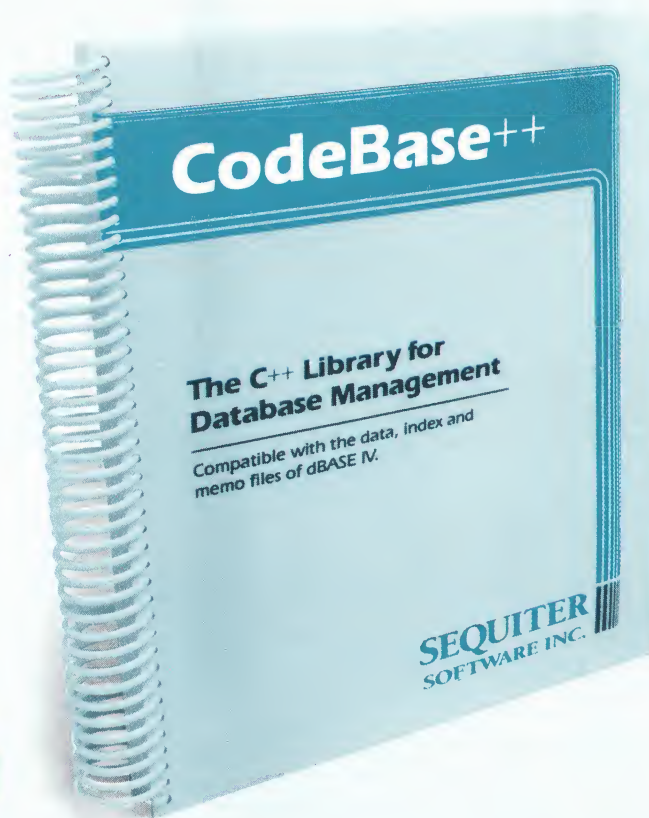
Use CodeBase++ with C++ to build multi-user, dBASE compatible programs. Take advantage of object orientated programming to quickly create maintainable, readable software.

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Use CodeBase++ classes to access and change the data, index and memo files of dBASE IV and III. Use other classes to manipulate strings, sort at high speed, perform date arithmetic, evaluate dBASE expressions, manipulate linked lists and manage memory.

## Portable

Port your programs between DOS, Microsoft Windows, and OS/2. Keep all the profits as you distribute your programs royalty free.



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programs. Implements true multi-user support on LANs. I/O tracing facilities, support for setting SCREENIO timeouts when records are locked, audit tags on records, and more.

*Realia or MS COBOL and Btrieve.*

## Btrieve for DOS

**Novell** 141-001 595 479  
Complete, key-indexed file handler for C, COBOL, BASIC, and Pascal. Multiple indices, fault tolerant processing, passwords, RAM caching, more. See also XQL and Xtrieve Plus in Data File Querying. No Royalties.

## Bee UTIL

**Service Success Inc.** 3037-001 149 139  
Direct, royalty-free replacement for BUTIL. Menu-driven for end-users or command line interface for batch mode execution. Automatically scans directories for btrieve files. File creation based on Novell CRE specifications.

## C

## Paradox Engine

**Borland** 777-070 495 383  
C library providing interface to Paradox database. Create, read, and write of Paradox tables in single- or multi-user environments. Supports explicit file and record locking, password protection, shares data concurrently with other Borland applications, data searching, and more. Compatible with many networks.

## D-Isam

**Byte Designs** 1282-003 595 549  
Multi-key B+ Tree indexed file manager which conforms to Informix C-ISAM standard. Implemented as library of routines written in C. Maximum size of 64K records and over two billion records per file. Includes 6,800 lines of commented source code.

## AccSys

**Copia International** 1625-007 395 349  
Seamless interface between C and dBASEIII, IV, or Paradox. Create, add, delete, modify, update database files. File operations 100% compatible with database. Supports number of index/record access methods. All C memory models supported. Examples with source. Supports Turbo, MS C, QuickBASIC. Source and/or MU versions avail.  
*Specify database/compiler.*

## AccSys for dBASE MU

**Copia International** 1625-020 750 695  
Same as single user version but also includes record locking.

## AccSys w/source

**Copia International** 1625-007 795 739  
Library source included.

## C-TRIEVE

**Coromandel** 1738-002 295 285  
X/Open standard based file manager which supports unlimited indexing, multi-level transactions, locking, and an upgrade to SQL. Callable from C and C++; allows applications for multiple environments like DOS, XENIX, and UNIX. Upgrade to an SQL database with minimal effort.

## c-tree Plus

**Faircom** 45-015 595 529  
Portable B+ Tree functions provide multi-key ISAM management. Low level functions to create/maintain data and index files and high level functions for indexed/sequential access. Supports record/file locking, fixed/variable length keys, superfiles, dynamic file space reclamation, resource records, more.  
*Includes special developer version of Faircom Server.*

## Toolbox Professional

**FairCom** 45-007 1,295 1,159  
Integrated package includes c-tree+, r-tree, d-tree. c-tree file handler does variable length records, key compression, B+trees; r-tree report generator does multi-line reports, conditional page breaks, dynamic specs; d-tree environment does prototype generation, data dictionary, overlapped windows, menu management.  
*Includes source and multiuser, OS/2, UNIX, VMS support.*

## Toolbox Special Edition

**FairCom** 45-007 695 539  
Object libraries to Toolbox Professional. Single user support only.  
*Supports Microsoft C, Turbo C, XENIX, and OS/2.*

## dBC III Plus

**Lattice** 72-012 500 384  
Multi-user version of dBC III. Access dBASE III Plus files; network support. Available for Lattice C, Microsoft C, and Turbo C. Source available.  
*Specify C compiler.*

## CBTREE

**Peacock Systems** 106-001 195 179  
B+Tree ISAM file manager, multiuser/network capability. Supports variable and fixed length keys you create. Runs on DOS, Xenix, UNIX and others. Comes in C source code form with sample programs. See also CB/IQ Report and CBTREE/SQL in Data File Querying. No Royalties.  
*Supports most C compilers.*

## db FILE/RETRIEVE

**Raima** 126-073 295 189  
B-tree and network-model file management system written in C. Includes SQL-based query program for ad hoc queries and reports. Database Definition Language, database utilities, and file locking. Non-RAM resident. Includes complete source code. No royalties. Single user version. DOS, UNIX, and XENIX support.

## db FILE/RETRIEVE Multiuser

**Raima** 126-073 595 399  
Multiuser version.

## db VISTA III

**Raima** 126-094 195 159  
C database management system. Developed in ANSI C and portable to various platforms including Windows, OS/2, UNIX, and VMS. Includes linkable runtime libraries with 200 routines for data access, disk caching, file and record locking, and more. Provides both relational data and network data models.  
*Specify C compiler. Single user version.*

## Code Base 4

**Sequiter Software** 1174-005 295 279  
Dbase file and screen management for C. Supports dBASE III, III Plus, and IV files, Clipper index files, and dBASE and Clipper memo files. Read, write, seek, enter data, use windows and build menus. Library supports R&R, dBXL, dSALVAGE. Multiuser, no royalties. Source included, ports to OS/2, Microsoft Windows, and UNIX.  
*Supports Turbo, Quick, MS, Watcom C; Zortech, Turbo C++*

## BTree/ISAM (Multiuser)

**Softfocus** 209-002 175 149  
B-tree file manager with all C source code. Multi-user support includes record and file locking routines. Files can have multiple keys and indexes.  
*Single user license available.*

## Essential B-Tree

**South Mountain Software** 42-036 199 149  
Database library for C. Supports single user, multi user and network applications; single/multiple keys, fixed/variable length records, file/record locking, and floating point keys. Converts to/from dBASE III data bases.  
*Includes C source code. No royalties.*

## B+Tree for C

**Sterling Castle** 303-001 79 69  
Multi-key, variable length records, partial key search, 40 indexes per index file, compatible with files created using ISAM included with BASIC Development tools. Complete source, no royalties.

## C++

## CodeBase++

**Sequiter Software** 1174-012 295 279  
Multi-user database management library for C++. Contains C++ classes for working with dBASE IV data, index, and memo files. Other classes for setting up filters and relations, evaluating dBASE expressions, sorting, memory management, and manipulating linked lists. Includes DLL for Windows. Source included.  
*Works with Zortech, Borland, Turbo C++, Runs under DOS, Windows, OS/2.*

## C++ Database Class Library

**Zortech** 1108-051 299 279  
Multiuser btree C++ class library. Classes for interactive data entry of fields and records, fixed length record file class, class to support variable length data, multiple index ISAM file system. Includes screen designer to generate C++ source files. Full source code included.  
*Requires Zortech C++.*

## MANY/OTHER

## 123 Library

**Atlantic Automation** 2828-001 155 140  
Product .WKS and .WK1 worksheet files. Complete Lotus command set. Functions for reading/writing Lotus 1-2-3 1.x/2.0 files. Examples for all routines. Supports Graph Ranges and Name Tables. Source available free to registered users.  
*Available for Turbo Pascal, C; MS C; Zortech C and C++.*

## WKS Library

**Raima** 126-044 195 149  
Access Lotus 1-2-3 and Symphony files (.WKS and .WK1) and dBASE files (.DBF). Functions to read and write, plus higher-level functions. Supports Excel, Clipper.  
*Supports most C compilers.*

## PASCAL

## Skipjack

**MAX Software Consultants** 1267-004 299 299  
dBASE-style function library in Turbo Pascal. Truly compatible with dBase files and indexes. Complete DBMS. Over 350 functions; 25+ command line utilities to ZAP, CREATE, BROWSE, etc. Includes complete dBASE expression parser, support for MEMOS, etc. Fully networked and multi-user. Full source code.  
*Requires Turbo/Quick Pascal.*



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**Topaz****Software Science**

1098-001

99

89

Write dBASE-like syntax in Pascal; all data-entry functions of dBASE. Use "SAY" and "GET" at any screen coordinate with automatic cursor-motion and editing handling. Read/write/create dBASE datafiles; select up to 10 data areas. Windowed BROWSE, utilities, dBASE-like report and code generators, more.

**Topaz LAN****Software Science**

1794-006

149

139

LAN version. Allows multiple users to read/write shared databases and indexes. "RLOCK" and "FLOCK" allow record and file locking with Dbase syntax. Works on single user machines.

**B-Tree Filer****TurboPower Software**

167-014

139

119

Pascal library for writing database applications. Fixed/variable record lengths, transaction tracking, index rebuilding and sorting, database browsing, journaling, and more. Works with Turbo Pascal and QuickPascal.

**B-Tree Filer Network****TurboPower Software**

167-014

189

169

Network version includes record locking, message passing, printer control, and file management. Supports Novell, 3COM, NETBIOS, MS-NET, and others.

**DATA FILE QUERYING**

Libraries for examining and generating reports from databases. These are more specialized routines than those for data file handling, optimized to display and combine information from many records flexibly and easily.

See also *Data File Handlers*; *Data File Reports*; *Database Management Systems*; *Dbase*; *SQL*; *CASE and Code Generators*; *Query Utilities*.

**BTRIEVE****XQL****Novell**

141-013

795

649

Relational DBMS, SQL superset. Utilizes Btrieve files. Callable from BASIC, C, COBOL, or Turbo Pascal.

Requires Btrieve 4.11 or later.

**Xtrieve Plus****Novell**

141-023

595

479

User-friendly menu-driven query package. Operates with Btrieve files. Includes advanced report generator for Btrieve files. Writes pre-printed forms, page numbers, dates, field calculations and other useful reporting functions.

Requires single-user or multi-user Btrieve.

**C****CBTREE/SQL****Peacock Systems**

106-005

395

369

SQL-compatible front end for CBTREE, with source code.

Requires CBTREE.

**CLIPPER/DBASE****FAST TEXT SEARCH****Index Applications**

1627-001

129

89

A library for rapid, free form, full text searches of memo fields, multiple data fields, multiple .DBF files and external text files from Clipper applications. No royalties.

Requires Clipper Summer '87.

**COBOL****RW2****Norcom**

649-001

350

339

Superset of ANSI report writer feature. Used with PC COBOLs for powerful report generating just by defining. Prints on standard and non-standard forms. Full font control for all printers.

**MANY/OTHER****dQUERY****Quadbse Systems Inc.**

1259-001

195

179

Query management system and report writer for dBASE and 1-2-3 users. Supports query-by-example and ANSI level 2 SQL. Use interactively or within dBASE programs. Queries against multiple dBASE files, joining dBASE and 1-2-3 files. LAN support included.

**SQL****RaSQL/B****Communication Horizons**

776-005

249

219

Interface Btrieve with Clipper. Access data using embedded SQL statements, or DBF-like commands. Pop-up help with Rettig, Norton Help.

Available for Netware SQL.

**GENERAL FUNCTIONS**

Comprehensive toolkits that are designed to give the programmer a wide variety of often-used subroutines.

**ASSEMBLY****Spontaneous Assembly****Base Two Development**

2695-001

199

159

Assembly language library with over 700 functions and macros. High-speed windowing and console i/o, near/far/relative heaps, array sorting and searching, error management, program and environment control, 32/64 bit math, string manipulation, and more. Full memory model support. Full source included.

Requires MASM, TASM or compiler with in-line assembly. No royalties.

**Magic TSR Toolkit****Quantasm Software**

1200-011

200

195

Assembly language library containing over 256 routines. Includes overlapping windows with moving-bar menus, drop shadows; screen routines; nested save/restore cursor position/type; date/time calendar with date/time math, holidays, etc.; extended precision math; file name parsing; over 75 string handling functions; more.

Supports Turbo Assembler; MS MASM; OPTASM. Available with source.

**BASIC****P.D.Q.****Crescent Software**

716-027

149

149

Replacement linking library for QuickBASIC. TSR support. For small to medium size applications where size and executing speed are critical.

**QuickPak Professional****Crescent Software**

716-038

199

189

QuickPak general function library plus functions for scientific and financial calculations, strings, array searching and sorting. Full source included.

**ProBas Programming Library****Hammerly Computer**

1164-002

149

149

368 routines, most in assembly language. Routines cover improved string handling, extended/EMS memory access, improved file I/O, virtual screens, screen snapshots with CGA/EGA/VGA, mouse support, windowing, and more. Includes extensive documentation and demo program with full commented source. No royalties.

Requires Microsoft QuickBASIC, BASCOM, or Business BASIC

**ProBas Toolkit****Hammerly Computer**

1164-003

99

99

High level routines for menus, windows with four-way scrolling and other features, word-wrap input routines, BCD arithmetic, character definition, a B-tree indexing system, and more.

Requires ProBas library. No royalties.

**ProRef****Hammerly Computer**

1164-006

50

50

Utility package includes TSR online reference for ProBas, a program to make any executable program into a TSR, and a collection of pop-up information charts. No royalties.

Requires the ProBas library.

**Mach 2****Micro Help**

597-001

79

69

General purpose assembler subroutine library, including store string arrays under 64K in DOS or EMS memory; string and numeric array sorts; DOS/BIOS interface; keyboard routines; fast screen display, save, restore; Get disk directory, drive info, volume label; more. Supports QuickBasic 1-4.5, BASCOM 1-6, MS PDS 7.0.

Specify compiler.

**C****C Tools Plus/6.0****Blaise Computing**

269-003

149

98

MS C utility library. Windowing, menus, keyboard, video I/O, memory management, screen support, ISR support, writing TSRs, string and file I/O, printer. Online help database compatible with QuickC, QuickHelp, MS Advisor; miniature multiline editor; pop-up help; documented source code; mouse support. No royalties.

Supports MS C and QuickC.

**Turbo C Tools****Blaise Computing**

269-018

149

109

General functions for Turbo C. Stack, remove, and write to windows; specify word wrap. Write directly to video adapter for speed. Supports EGA and VGA text modes. Horizontal, vertical menus. ISR, writing TSRs. Includes pop-up help, miniature multiline editor, documented source, mouse support. No royalties.

Supports Turbo C & C++, Borland C++.

**Functions****Greenleaf Software**

55-016

229

209

General function library for C. Includes source code in C and Assembler. Functions for DOS and disk use, string manipulation, basic graphics, communications. Includes all source in C and assembly.

Specify C compiler.



# Two great tools that break the rules.



## SAYWHAT?!

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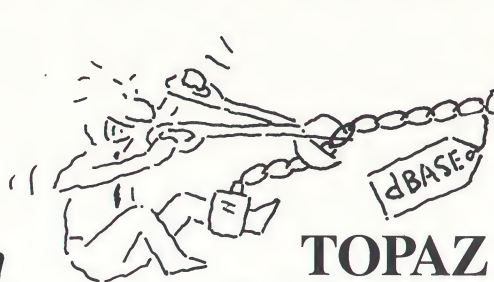


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- Easy-to-use, powerful editor lets you create screens in a jiffy!
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- Screen Library Manager.
- Generates runtime code.
- No runtime license or royalty fees.
- Comes with a 100-page manual, plus dozens of sample programs and free utilities.

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The breakthrough DBMS  
for Turbo Pascal.

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simplicity and elegance of dBASE. That's right! We've broken the rules so you can create complete, truly dazzling applications in no time. And no wonder. Topaz is a comprehensive toolkit of dBASE-like commands and functions, designed to help you produce outstanding, polished programs, fast. And new Version 3.0 now supports memo fields, soundex indexes, and

multi-user applications.

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S O F T W A R E   S C I E N C E   I N C .



**SuperFunctions**

Greenleaf Software

55-035

299

239

Over 350 all new C functions for expanded memory interface, mice, interrupt processing, time and date routines. Advanced routines for project scheduling. Includes source.  
*Specify C compiler.*

**C Utility Library**

South Mountain Software

42-037

249

189

400+ C functions for menus, keyboard, and data entry. EMS 4.0, window editor/file browser, and file back-up utilities. Menuing system, screen painter, and code generator allow building user interfaces complete with mouse support and keyboard exits. All source included.

**Blackstar C Function Library**

Sterling Castle

303-003

99

89

General function library for C. Includes utilities for file handling, graphics, communications, and mouse support. Source code included.  
*Supports most C compilers.*

**C++****Tools.h++**

Rogue Wave

2807-001

199

189

General purpose C++ class library. All classes are not derived from a single root class. Memory and disk resident classes for Set, Bag, SortedCollection, OrderedCollection, Dictionary, Stack, Queue, Linked List, DDE, etc. Also String, Time, Date classes. Complete source. Windows 3.0 compatible.  
*Supports AT&T 2.0 compatible C++ compilers.*

**CLIPPER/DBASE****3PX Extended Function Library**

3P Software

1996-001

159

139

General Clipper library. Includes routines for arrays, BIOS, keyboard, memory, date/time functions, video displays. Implements a dBASE compatible browse. No royalties.  
*Clipper Summer 87*

**ClipWord with SpellClip**

Action Plus Software

3220-005

200

189

Wordprocessor and spell checker for use with Clipper Memoedit. Includes bold, underline, import/export, field merge, margins. 25,000 word dictionary, and dictionary builder for unique industries. Source included.

**Zipcode/Clip**

Action Plus Software

3220-006

100

89

Automatically look-up cities, states, or zip codes in your dBase, Clipper, or Fox applications. Includes over 46,000 zip codes for U.S. cities. Source included.

**GET-IT**

Communication Horizons

776-004

129

119

Clipper enhancement library. SaveGet and RestGet for nested reads; GetRow, GetCol query location; Sfield for mouse location. Event trap functions: NoKey for timeout; NewFld for cursor entering new field; OnTick calls procedure at regular clock interval; more.

**FUNCKy.LIB**

dLESKO Associates

1395-001

249

239

Clipper function library includes more than 400 functions for popup windows, pulldown menus, mouse support, advanced video support, faster EXTEND.LIB function replacements.

**Steve Straley's Toolkit**

Four Seasons Publishing

1278-003

180

169

Clipper library includes 543 routines for menus, popup utilities, arrays, database/table generation, screen color, trigonometric and financial functions, packing .DBTs, find files, word processor, report writer, more. Also includes source debugger, sample programs, and a database file for Tom Rettig's Help.  
*Requires Clipper SUMMER 87.*

**Super.LIB**

Functional Software

2853-001

195

179

General Clipper library. Form letters, mailing labels, report writing, data entry, lookup tables, interactive DBF and INDEX building, copying and appending, on-line help, text file listing, frequency analysis, directory maneuvering, and query building. Includes Clipper, C, and assembly source. No royalties.

**CLIPX**

GG Compu-Systems

2644-001

249

239

Contains functions for handling screen, images, arrays, databases, strings, menus, dates, "SET" status and more. DBHANDLE supports index based partial tables, panning with lockable display fields, dynamic search, more. Comes with on-line guide for Norton Guides. Free upgrade to Clipper 5.0 compatible version.

**dBEST Toolbox**

HALLOGRAM Software

1130-002

195

185

Adds over 150 programs and functions to FoxBASE+, FoxPro, Clipper, DBXL, QS, and dBASE. Native language library covers arrays, business, date/time, conversions, DOT prompt, text editor, games, help, mail-merge, math, pop-ups, printers, query system, security, statistics, and utilities.  
*cont'd.*

Includes tutorial, royalty-free source.

*Requires FoxBASE+.***Integrated Dev. Library**

Integrated Dev. Corp.

1091-001

149

139

Intercept "Abort, Retry, Ignore" with critical error handler. Display real-time ticking clock or keyboard status anywhere on screen. Manipulate partial screens in memory. Complete access to DOS files and Clipper's internal SET variables. Written in assembly language.

**SmartMem**

Integrated DevCorp

1090-004

89

90

Prevents "Out of Memory" errors by reducing amount of fragmentation in free pool. H pack() rejoins free pool memory blocks. Diagnostic functions show where problems lie and which constructs to avoid. Complete system of SmartMemory eliminates fragmentation and apportions 64K of EMS for variable storage.

**Pro Clip**

Market Service

1392-001

195

185

For Clipper. Flexible - most functions developed with variable parameter passing. Includes DOS, equipment, environment, screen, string, and general functions.

**ClipOn**

ProWare Corporation

3267-001

99

89

Includes functions for scrolling and browsing databases, windows, pop-up menus, screens, special effects, hardware, device status, DOS files, directories, strings, colors, dates, arrays, debugging, and much more. Supports all major linkers. Compatible with Clipper Summer '87 and version 5.0.

**Time Trak**

Soft Systems

1248-003

299

279

Appointment scheduling program including daily, weekly, monthly, or yearly viewing; repetitive event facility; printout; alarm clock; multi-user with optional hierarchy, and more. Includes full Clipper source.

**CLIP2EB**

SuccessWare

3741-001

199

189

Gives access to Emerald Bay database development system from within Clipper. Features include client-server environment, variable-length fields, automatic file index maintenance, full featured data dictionary, transaction processing, binary fields.

**CLIPPER****Grumpfish Library**

Grumpfish Inc

3048-001

199

199

Database browser with integrated screen designer that generates fully-optimized Summer '87 or 5.0 code. Help screen development tools, desktop utilities, over 80 other functions. Over 800K source code for Summer '87 and 5.0; includes Norton Guides reference database. Use to learn Clipper.

**FORTRAN****Spindrift Library**

Spindrift Laboratories

911-001

149

129

General subroutine library for FORTRAN. Features string routines, DOS interface routines, screen routines, keyboard routines and many other useful functions. Supports Microsoft, Ryan McFarland, and Lahey FORTRAN.  
*Specify FORTRAN compiler.*

**MANY/OTHER****SpellChecking Engine**

Geller Software Labs

1945-003

249

229

Library with dictionary of over 100,000 words and maintenance program to add or remove words. Maximize lookup speed or minimize memory usage. Supports many languages like Clipper and C. License allows for distribution of 25 programs with engine included. Developer version for 500 copies available.

**PASCAL****POWER TOOLS PLUS**

Blaise Computing

269-022

149

109

Utility libraries for Turbo Pascal 4.0 - 6.0. Includes windows, direct screen access, strings, BIOS and DOS interface, keyboard functions, context-sensitive help, field editing, ISR with clock or keyboard trigger, string handling, more. Complete source. No royalties.  
*Supports Turbo Pascal or Quick Pascal.*

**DateCalc**

O.K.Soft

3018-003

99

89

Date calculation routines for Turbo Pascal. Uses algorithms, not tables. Date plausibility, workdays, holidays, date information, leap year and weekend checking, day/workday distances, date from date plus number of days/weeks/months. Supports US and European holidays.

**Object Professional**

TurboPower Software

167-018

189

169

Over 100 classes and 1000 methods for stacks, linked lists, virtual arrays, swappable TSRs, DOS/BIOS services, keyboard macros, windows, text editing, forms-oriented data entry, printer control, context sensitive help,  
*cont'd.*



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## Z O R T E C H C + + 3.0

**Z**ortech C++ Version 3.0 for DOS & Windows, the newest compiler from the leader in performance and portability for C++. Use Zortech's optimizer to unleash the benefits of C++ without the performance hits of other C++ compilers. The optimizer is easy to use and incorporates proven compiler technologies like data flow analysis, dead code elimination, register allocation by live range coloring and multiple loop optimizations to give you the tightest, most efficient C++ code available.

**GRAPHICS PERFORMANCE:** Set new speed records with your DOS graphics applications using Zortech's high-performance Flash Graphics library. Flash Graphics runs up to 250% faster than graphics libraries shipped with other C++ compilers. You can even buy the source code to Flash Graphics direct from Zortech for a modest \$199.95

**ROYALTY FREE DOS EXTENDER:** Now Zortech lets you build multi-megabyte protected mode applications for 286, 386 and 486 systems. Developed exclusively for Zortech by

Rational Systems Inc., Zortech's DOS Extender allows you to change from DOS to protected mode DOS with a simple compiler switch. Just compile, link, and ship. There is nothing more to buy, nothing to sign and no royalties to pay.

**WINDOWS 3.0 SUPPORT:** Zortech Version 3.0 gives you everything you need to create applications for Microsoft Windows 3.0 including WINDOWS.H, IMPLIB, the help compiler and engine, online documentation, and the Windows API documents, in hardcopy format. In addition, Zortech has produced its own fast linker, resource compiler, and integrated all these tools into the Zortech standard libraries. Zortech has also licensed the WindowsMAKER™ Prototyper tools from Blue Sky Software, and provides a single/dual monitor Windows debugger.

**ZORTECH'S WINC LIBRARIES:** With Zortech's WINC you can bring the memory management and interface power of a true Windows application to your DOS applications. Simply throw a compiler switch, recompile and relink.

## Z I N C I N T E R F A C E L I B R A R Y 2.0

**Z**inc Interface Library 2.0—the most powerful user interface class library available. Zinc's award-winning technology taps the full power and flexibility of object-oriented programming to accelerate your development efforts and enhance your productivity.

**MULTIPLE PLATFORM SUPPORT:** Zinc 2.0 combines the run-time binding of C++ with modular display and input classes to give you plug-in support for MS Windows 3.0, DOS Graphics and DOS Text with one set of source code.

**ZINC DESIGNER™:** With Zinc 2.0's powerful new interactive design tool, you'll be building professional-looking applications in a matter of hours rather than days or weeks. A simple menu and mouse click are all that separate you from Zinc's powerful persistent window object technology. Zinc Designer also features window, menu, input field, button and icon editors to create and modify your window objects.

**EVENT & WINDOW MANAGERS:** Zinc's sophisticated event manager seamlessly integrates user input from the keyboard, the mouse and other input devices. The window manager and Zinc's support resources automatically handle mark, cut, copy and paste operations as well as event and palette mapping.

**ROBUST WINDOW OBJECTS:** Zinc features a full complement of window objects including: window, border, title, maximize, minimize, system and standard buttons, date, time, string, formatted string, text, prompt, number, matrix, icon, pop-up and pull-down menus, pop-up window and scroll-bar.

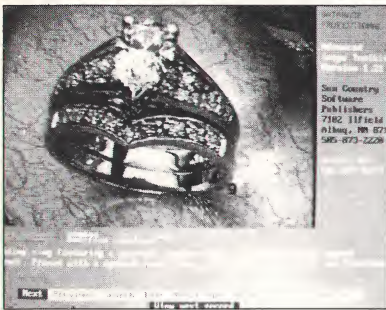
**COMPREHENSIVE DOCUMENTATION:** Over 1,100 pages of documentation make it easy to use Zinc's object-oriented architecture. A 680-page Reference documents public and protected member functions. There's even a 300-page tutorial to help C programmers who are moving to C++.

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See product listing in the LIBRARIES

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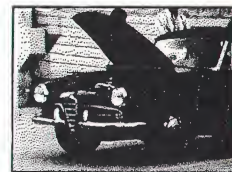


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Give your applications support for scanner and laser printer.

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more. New features like SAA CUA style dialog boxes, draggable windows, XMS/EMS 4.0 support.

Requires Turbo Pascal 5.5 or 6.0. Includes source.

### Turbo Professional

#### TurboPower Software

167-011

125

109

General function library. Routines for screens, ISR's, sorting, strings, windows, menus, BCD arithmetic, DOS access, pop up help, EMS, time/date manipulation, and memory management. Complete source, no royalties.

## GRAPHICS LIBRARIES

Libraries for pictorial display of data on screen displays, printers, or plotters, for general, scientific, engineering, or business purposes. There is a wide variety of graphics hardware for which graphics software must have the proper drivers.

See also *Presentation Graphics; General Functions; Print and Font Editors; Desktop Publishing; Mathematics Applications; Print Libraries and Bar Codes; Video Hardware; Digitizers.*

### BASIC

#### GraphPak Professional

##### Crescent Software

716-012

149

119

Collection of subprograms for displaying 3-D bar, pie, and line graphs from within any basic program. Includes business and scientific graphs, surface plots, and ability to display multiple fonts simultaneously. Can display text, titles and legends in any size, color, or style.

### C

#### CAD/CAM Developers Kit/2D

##### Building Block Software

1714-001

499

450

CAD/CAM Developers Kit/2D is a collection of C routines that perform 2D geometric computations like finding the intersection points of curves. Those functions also display 2D geometry and read and write all DXF Rel.10 entity types. 3D version also available.

Math co-processor; Microsoft C, Turbo C, Metaware, Watcom C compiler.

#### GFX Graphics Library

##### C Source

15-003

150

139

Supports all video standards, fill areas with a color or pattern, 16 viewpoints with automatic scaling and local or world coordinates. Source code included.

#### GFX Fonts & Menus

##### C Source

15-004

150

129

Text output and graphics interface library. Use with stand-alone graphics or compiler. Includes many fonts, typefaces, and symbols. With source. No royalties.

#### GFX Graph Lib w/Font&Menu

##### C Source

15-005

250

219

Combination of GFX Fonts & Menus and GFX Graphics Library.

### Victor

#### Catenary

2725-001

195

185

C image processing library. Brightness, contrast, sharpen, outline, resize, overlay, etc. Process single, multiple, or partial images from any source. TIFF, PCX, GIF, bin file formats; hardware independent. Supports EGA/VGA up to 800x600x256. Frame grabber support: live video on VGA and frame averaging. Prototyping software.

Supports MS C, QuickC, Turbo C.

#### Victor w/source

##### Catenary

2725-003

295

279

Victor library with source code.

#### Graf-Text w/Source

##### Computer Connection

899-014

89

85

Library that generates printable letters, numbers, and symbols from 1/10 inch up to 8 inches. Custom design your own text style. Supports Turbo, Lattice and MS C.

#### TurboWINDOW/C

##### Metagraphics

318-005

150

139

All features of MetaWINDOW in form of loadable TSR for use with Turbo C++ 2nd Ed.

### GraphiC

#### Scientific Endeavors

133-001

395

319

Publication quality scientific graphics. Labeled plots include linear, log, 3-D, polar, and bar. Hidden line removal, shaded surfaces. PostScript, GEM, .PIC, and HPGL file conversion. Source included.

Supports most C compilers.

#### Essential Graphics

##### South Mountain Software

42-019

399

349

Graphics library for C programmers. Includes routines for low level calls, 3D and 2D bar and pie charts, line and scatter graphs, character fonts (bit image and vector), PC Paintbrush support, hardcopy output, world and viewport coordinates and more. Supports CGA, EGA, VGA, 8514, Hercules, and Super VGA. No royalties.

#### Sunshow C Language Image Library

##### Sun Country Software

1629-005

250

229

Merge bit-mapped, paint, scanned, digitized artwork/ video output with cont'd.

text taken directly from database record fields. Allows interactive data entry on-top-of or along-side-of an image. Supports S-VGA at 1024 x 768 resolution. Converts between GIF, PCX, PIC, TIFF, TARGA formats. Control contrast, brightness, etc.

### CLIPPER/DBASE

#### dGE 4.1

##### Pinnacle

1235-011

295

279

Linkable graphics library supports many types of charts, graphs, and images including: pie, line, 3-D clustered and stacked bar, polar, scatter, area, GANTT, PCC/PCX images, more. Mouse support, icon/font editor, postscript and color printer support. Use pull-down menus and WYSIWYG editing screens to design graphs.

### Flipper

#### ProWorks

974-001

295

279

Graphics library for Clipper. Routines for shape drawing, axis manipulation, fonts, pie charts and plotting. No royalties.

#### SilverPaint Library

##### SilverWare

767-021

129

119

Graphics enhancement library. Lines, circles, boxes, logos, icons, animation. Combine text and graphics. Position multiple PCX images anywhere. Add full range sound.

Supports dBASE compatible databases.

#### Sunshow Advanced Image Toolkit

##### Sun Country Software

1629-002

250

239

Extended version of Sunshow Professional that supports higher resolution boards and more utilities for image processing.

#### Sunshow Database Pro

##### Sun Country Software

1629-001

99

95

Image processing database add-on, stand alone view utility. Links into most dBASE compatibles and will display most graphics formats on most displays. Version available for Targa boards.

### FORTAN

#### GEOGRAF Professional Edition

##### GEOCOMP

1037-001

325

319

Graphics library provides simple CALCOMP compatible commands that help create report quality plots and graphs from inside application programs. GEOGRAF calls are device independent, supporting virtually any output device. Complete set of graphics device drivers. Supports 13 fonts, 4 plot line types, area fill routine.

Specify Microsoft, Lahey, or Ryan-McFarland FORTAN.

### Grafmatic

#### Jewell Technologies

1097-002

250

239

FORTAN graphics library with 2- and 3-dimensional plotting. Includes graphics primitives, MS serial mouse support, animation, curve fitting, regression, text anywhere on screen, hidden line removal, screen dump to dot matrix printer utility. Supports CGA, EGA, VGA, Hercules monochrome, or AT&T3600, also MS mouse.

Supports Microsoft, Ryan-McFarland, and Lahey Fortran.

### Plot 88

#### Plotworks

1774-001

299

279

Industry Standard Plotting Package (ISPP) with extensions for use on PCs. Includes the routines AXIS, FACTOR, LINE, NEWPEN, NUMBER, PLOT, PLOTS, SCALE, SYMBOL, and WHERE. Routines to generate two and three dimensional mesh surfaces. Supports DXF and PostScript files. Microsoft C version available.

Supports Microsoft, Ryan-McFarland, and Lahey FORTAN.

### MANY/OTHER

#### VID and DIG Graphics Library

##### Chirp Tech

1716-001

280

249

Over 300 graphics routines for graphing numerical data. Rectangular, semi-log, log-log, polar, smith, 3-D wireframe, properly labeled contour plots. Unlimited windows/plots per page. Device independent procedures. Written in C and assembly. Low-level routines for line, polygon drawing, more. Mouse support.

Source available for MS QuickBASIC, C, FORTAN; Turbo C.

#### DXF Subroutine Library

##### Farbit Research

3855-001

195

175

Toolkit for generating AutoCAD DXF drawing files from Fortran, C, Basic, and QuickBasic programs. Routines for 2D and 3D drawing entities include line, text, arc, circle, point, polyline, layer, and 3D face. Includes all source code for routines. Vector to DXF conversion. Supports all releases of AutoCAD including release 11.

### GX Effects

#### Genus Microprogramming

1265-001

199

179

Add special effects to displays. Wipe, fade, split, spiral, and more. Expanded memory support allows off screen image storage. Complete music definition language provided allows music to be played while graphics screens are displayed. Includes animation support and sprites. Supports major compilers.

#### GX Effects w/Source

##### Genus Microprogramming

1265-001

399

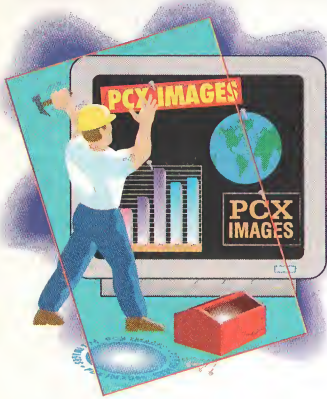
369

Complete package including fully commented structured assembly language source code for GX Effects library.



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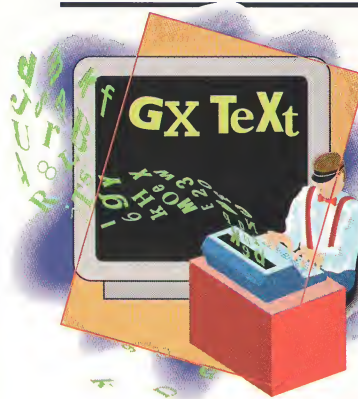
**NEW!**

## GX TEXT 2.0



Now you can display blazing bitmapped text in any graphics mode as simply as text mode. With GX TEXT, you can display your textual information right along with your graphical data, using the display or off-screen virtual buffers. Routines are included for displaying any font in the GEM font file format, with dynamic attributes like bolding, underlining, transparency, and more. Includes a graphical font editor for creating your own fonts, or use any of the 1 MB+ of fonts provided.

**ONLY  
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**NEW!**

## GX EFFECTS 2.0 \*



Add spectacular special effects (F/X) and animation to your programs, without being trapped in an editor or slideshow program. Wipe, split, crush, slide, sand, drip, diagonal, spiral, random, or explode your graphics. GX EFFECTS 2.0 includes new blind, weave, and tiling effects; animation and sprites using transparent puts; and Soundblaster™ music support. Jazz up your programs for attention getting results.

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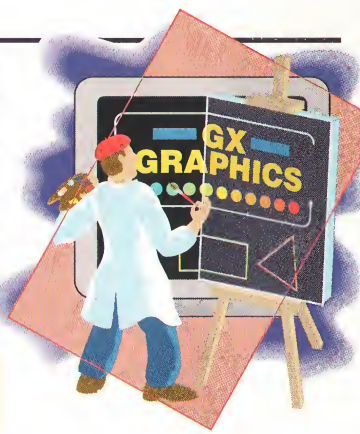


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**Genus Microprogramming** 1265-016  
Graphics library that supports all graphics primitives from PutPixel to FilledEllipse, including mouse routines. Add graphics, replacing compiler libraries with hand optimized assembly code. Port code across languages and compilers in over 30+ modes.  
*Supports most major compilers.*

**GX Graphics w/ source**

**Genus Microprogramming** 1265-011  
Complete package including fully commented structured assembly language source code for GX Graphics Library.

**GX Text**

**Genus Microprogramming** 1265-001  
Linkable libraries provided to allow display of characters and strings of text using bitmapped fonts in 30+ graphics modes, including display to off-screen virtual buffers. Control color, alignment, spacing, etc. Includes routines for accepting user input. Includes graphical font editor and 1Mb of fonts.  
*Supports major compilers.*

**GX Text w/Source**

**Genus Microprogramming** 1265-001  
Complete package including fully commented structured assembly language source code for GX Text library.

**PCX Programmer's Toolkit**

**Genus Microprogramming** 1265-008  
Over 90 routines for displaying, saving, printing, scrolling, sizing and scaling, and manipulating PCX format images. Supports 30+ video modes up to Super VGA. Supports extended memory.  
*Supports many major compilers.*

**PCX Programmer's Toolkit w/source**

**Genus Microprogramming** 1265-009  
Complete package including fully commented structured assembly language source code for the PCX Programmer's Toolkit.

**GX Developer's Pak**

**Genus Microprogramming** 1265-013  
Combination of PCX Programmer's Toolkit, PCX Text, PCX Effects, and GX Graphics.  
*Source code available.*

**GEOGRAF Level ONE**

**GEOCOMP** 1037-010  
Allows mainframe graphing power to be added to PC programs. Provides callable subroutines and functions to create report quality plots and graphs. Supports 13 fonts, four line types. Import graphs into HPGL files. Graphic drivers included. OS/2 compatible. Specify Basic 7, QuickBASIC 4.5, TBC, or MSC.

**GSS Graphics Development Toolkit**

**Graphic Software Systems** 223-073  
Device-independent graphics programming environment with high-level routines to speed application development. Device drivers support over 300 graphics displays, hard copy, and input devices. Supports most popular compilers.

**GSS\*CGM Metafile Interpreter**

**Graphic Software Systems** 223-029  
Read, interpret, modify, or redraw pictures and text stored in Computer Graphics Metafile format. Offers device-independent, compact storage of graphics information. Interface to C, FORTRAN, or compiled BASIC.  
*Requires GSS Graphics Development Toolkit.*

**G-BASE Professional**

**M-Tech Development** 368-009  
Without programming, create stand-alone applications which feature a menu system, a multipage editor, data importation, file handling, context sensitive help, and production of UGL for device support. Batch print custom designed graphs using data from databases, and generate variations of drawings by entering new data.  
*Includes UGL driver.*

**HALO**

**Media Cybernetics** 86-009  
Over 200 subroutines supporting 18 programming languages. Includes: drawing; viewport, window, coordinate control; text functions; metafile functions; image movement and compression; device management; cursor control; image input; more. Hardware support for over 170 devices, including TIGA drivers.  
*Versions for MASM; popular BASIC, C, FORTRAN, Pascal.*

**HALO Professional**

**Media Cybernetics** 86-044  
Graphics toolkit that allows developers to create and incorporate graphics into applications. Support for DOS extenders, popular devices, and contemporary languages. Kernel requires a minimum amount of memory. Ideal for developers of CAD, Process Control, Medical Imaging, Mapping, Scientific Visualization, and more.

**MetaWINDOW**

**Metagraphics** 318-001  
Device-independent graphics development toolkit bridges gap between low-level graphic primitives and high end window managers. Functions for lines, shapes, fonts, windows, virtual bitmaps, and more. Runtime hardware identification, supports virtually all graphics adapters. No royalties.

**MetaWINDOW/PLUS**

**Metagraphics** 318-001  
All features of MetaWINDOW plus supports 286 DOS Extenders and an expanded set of high resolution display adapters. Also includes added set of performance enhancements for faster drawing speed.

**API**

**Scanbase Graphics** 1638-001  
High-level programming interface to scanners and image processing. Allows developers to write applications that take advantage of scanners and image technology. Works with any software package capable of invoking a DOS program. Supports true gray scale image scanning, view, print, raster editing. PCX compatible.

**INGRAF**

**Sutrasoft** 1334-007  
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*Specify C, FORTRAN, Pascal, or Basic compiler.*

**Z-Phigs Professional**

**Wise** 2632-017  
Enhanced implementation of 3D-graphics standard PHIGS to simplify the design and animation of complex graphic objects. Device independent 2D, 3D functions provides the designer capabilities like 3D-transformations, Z-buffering, multiple lightsources, shading, B-splines, texture mapping, more for generating realistic models.

**PASCAL****GFX Fonts & Menus**

**C Source** 15-012  
Text output and graphics interface library. Use with stand-alone graphics or compiler. Includes many fonts, typefaces, and symbols. With source. No royalties.

**GFX Graphics**

**C Source** 15-008  
Supports all video standards, fill areas with a color or pattern, 16 viewports with automatic scaling and local or world coordinates. Source code included.

**GRAPHICS WINDOWS**

Libraries other than Microsoft Windows for creating window interfaces on the graphics screen.  
*See also Text Screens; Microsoft Windows; Graphics Libraries; and Operating System Enhancements.*

**Font-Tools**

**Autumn Hill Software** 1263-004  
Create, edit, and use fonts within graphics application. Supports GEM, MetaGRAPHICS, and HP Soft Font formats. Includes mouse-driven font editor; utilities for font manipulation and modification; font downloading to HP or compatible laser printer; C library for font drawing; 80 sample font, icon files. Source available.  
*Supports Turbo C, MS C, Zortech C/C++, MetaWare 1.6.*

**Icon-Tools**

**Autumn Hill Software** 1263-001  
Create and use icons within graphics applications. Supports icons with 2, 16, or 256 colors; size limited only by display hardware. Icon editor, view/print utility. C function library supports icon-based menus. Complete mouse interface. Supports digital dissolve, animation, image scrolling. Library source available.  
*Supports Turbo C, MS C, Zortech C/C++, MetaWare 1.6.*

**Data Entry**

**Island Systems** 1309-045  
Creates form menus. Features data conversion, dBASE-like "picture strings", field movement, range checks, help lines, flexible exit conditions, more. Includes Data Entry Designer, on-screen WYSIWYG environment to create data entry menus: basic/advanced form attributes, context-sensitive help, much more. Auto-code generation.  
*For graphics-MENU. Specify BGI, MetaWINDOW, MS Graphics or Genus GX Graphics. Version with source available.*

**Data Entry w/ source**

**Island Systems** 1309-047  
224 205

**graphics-MENU**

**Island Systems** 1309-037  
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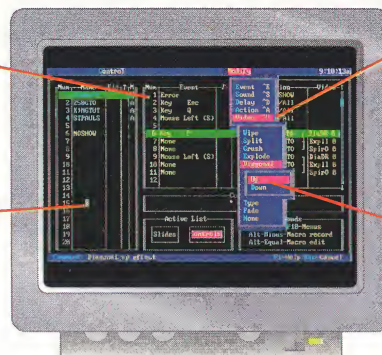
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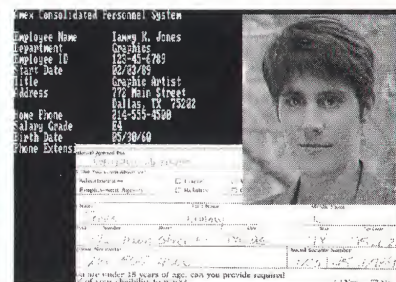
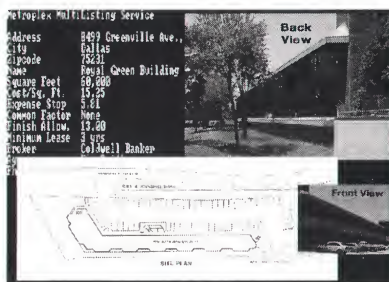
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1309-039

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Media Cybernetics

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519

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South Mountain Software

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**METAWINDOW****Menuet**

Autumn Hill Software

1263-005

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Requires MetaWINDOW and a C compiler.

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For graphics-MENU. Specify MetaWINDOW, BGI, MS graphics. Version with source available.

**graphics-MENU**

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1309-041

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TEGL Systems Corp.

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**C****Financial MathLib**

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**C++****M++**

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**Math.h++**

Rogue Wave

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200

189

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**Workstation Library**

Numerical Algorithms Group

1990-009

795

759

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Alligator Technologies

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295

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**Math Pak 87**

Precision Plus Software

666-003

129

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**Scientific Subroutines**

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177-003

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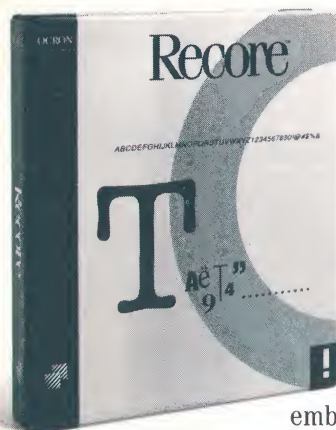
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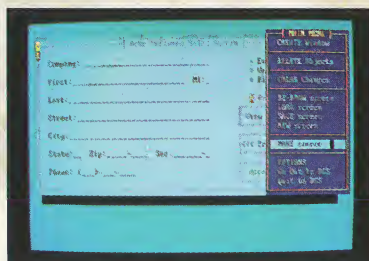
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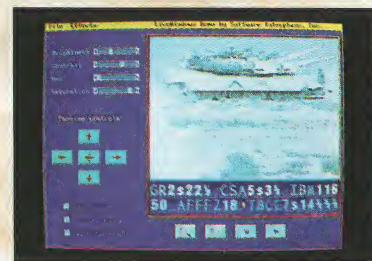
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495

479

Integrate PCX or TIFF images into applications such as databases, documents, spreadsheets without programming. Text string triggers tell the application where to find the image to be added. The QuickPix TSR watches the screen for the trigger and displays image instantly via hotkey. Includes capture, resize, zoom ability.

**Live Windows**

Software Interphase

1040-006

895

879

Display live color video within a window. Freezes and captures video. TIFF format supported. Includes plug-in frame grabber card. Use with laser disk players or any other video source.

## NETWORK LIBRARIES

Collections of routines to process networking communications such as Novell IPX, Netbios, etc.

See also Comm &amp; LANs section.

**BASIC****dB/Lib Network Database**

AJS Publishing

1302-001

575

475

Create QuickBasic database applications on any DOS compatible LAN. Manages dBASE III+ files. Record locking and file sharing. No limit on number of users. No royalties.  
*Requires QuickBasic or MS Basic.*

**C****Netware C Interface**

Novell

141-059

295

239

Allows access to NetWare functions from C programs. Accounting, bindery, communication, connection, diagnostic, directory, file, print, queue, AppleTalk filing protocol tools, synchronization services, file server and workstation environments, value-added processes, more. Examples included.

**CLIPPER/DBASE****NetLib**

Communication Horizons

776-001

249

229

Adds networking to Clipper. Features automatic journaling, queries as to who has locked a record/file, multiple record locks in single file, automatic encryption for data security. Supports Novell and NETBIOS compatible networks.  
*Requires Clipper.*

**CLIPnet**

DataSync Technology

3095-001

199

189

Access Novell Bindery from Clipper. Contains functions for network printing, semaphores, add and delete users/groups, more. Includes source and chapter on Clipper extend system. Supports Novell 2.x and 386.

**MANY/OTHER****NPPC**

Applied Software

1950-001

495

445

Network inter-program communications. Write applications, servers, DOS LANs. Transmit requests for service, establish "logical sessions" between client and server, implement synchronous or asynchronous processing, receive messages in sequence by function and/or priority. Link to Microsoft C or MASM.  
*Supports Microsoft C or Assembler.*

**Remote Procedure Calls**

Novell

141-036

950

829

Generates code to manage network interprocess communications. Uses machine-independent, ISO standard data format. Full support for C data structures and syntax, detects and reports communication errors.

**Network Toolbox/N**

TSEG Inc.

2922-001

140

129

Program Novell Network compatibility into programs. Over 80 function calls. Includes function modules and fully working programs. Source code included. Available for Turbo C.

**Networker Plus**  
WordTech Systems

971-004

259

214

Provides record and file locking for Quicksilver applications. Includes distributed processing, communications, menu-driven network program.  
*Supports Quicksilver.*

## OPERATING SYSTEM ENHANCEMENTS

Libraries for extending the capabilities of DOS: multiuser, multitasking, memory expansion, real-time, and TSR (Terminate-Stay-Resident) libraries.

See also Memory Managers; Multi-Tasking Enhancements; Menuing Systems and Shells; Memory Hardware.

**BASIC****Stay-Res Plus**

Micro Help

597-007

89

79

Makes memory resident any standalone BASIC program that does not require /D, /V, or /W compiler switches. Balance swapped to disk file or EMS memory. Pop-up on keypress, date/time, COM port ring-detect, from a POKE, and much more. Includes examples.

**C****PowerSTOR**

Acme Software

2075-001

92

57

Memory manager for C application programs. Developer can specify and use any available memory, including expanded, extended, or hard disk. Performs all system sizing and initialization. K&R C and assembly language sources included. Compatible with most C compilers.  
*DOS compatible C compiler.*

**Interwork**

Block Island

1442-001

229

219

C library for writing programs as cooperating concurrent tasks. Useful for real-time applications. Optional time sliced scheduling, enhanced interrupt and trap handling, expanded user's guide. Unlimited number of tasks, context switching, full inter-task communication (shared memory, semaphores, blocking queues, events).  
*Supports Borland, Zortech C++, Lattice, or MS C.*

**TimeSlicer**

Lifeboat Associates

75-008

295

279

C library for multi-tasking and real-time event processing. Provides intertask ISR communication, task scheduling, pre-emption control.  
*Specify C compiler.*

**Code RunneR**

Microsystems Software

1941-006

149

139

C library replacement for Borland, Microsoft, Watcom to produce TSRs. Disposes initialization code and data. More than 250 functions written in assembler. Includes full DOS I/O from TSR, up to 256 hot keys, software traps, scheduler, BCD-Math, and TSR removal. Includes examples.

**PDK#1**

Microsystems Software

1941-004

99

89

More than 50 functions for CodeRunneR including background COMMM up to 34 ports, 115K baud, handshake control, chained buffers, Digiboard and StarGATE support. LIM 3.x and 4.x support. Most TSRs less than 1.5K.

**PDK#3**

Microsystems Software

1941-005

99

89

Enhancements for CodeRunneR. Swapping foreground application to disk or LIM. Allow programs/modules under 64K to be executed from LIM. Allow TSR pop-up when foreground is in graphics mode. Save/restore commport, mouse, and co-processor states.

**MoreHeap**

Seabreeze Software

3790-001

100

95

Provides up to 180K additional addressable memory through standard heap management functions. No reprogramming, just relink. Finds difficult heap errors with improved debug and analysis routines. Also 132 MB virtual memory manager with overflow to extended memory and disk. Includes source.

**"C"EMM Library**

Silverware

767-015

149

139

Over 60 functions provides access to Expanded Memory Manager by providing direct link between program and EMM driver. Using EMM, add up to 32 MB extra space for data storage.

**/resident C\*/**

South Mountain Software

42-026

249

189

C library that makes C code memory resident. Activates TSR's by keystroke or hook them into the PC's timer for background processing. Keeps only 4K of TSR in memory, storing the rest in EMS or on hard disk. Supports ISR's and shared resident libraries.

**Heap Expander**

Tool Makers

1649-001

79

75

Routines to use expanded or extended memory as an extension of the heap, can also swap data to disk. Use a 32 megabyte virtual heap. Source code included.  
*Specify C compiler.*



# THE STUFF FROM WHICH PROGRAMMING DREAMS ARE MADE.

At South Mountain, we take care of the details, you take care of the creativity. Our function libraries give you the most up-to-date, versatile, and compatible tools to help you build any application you can conceive. Let South Mountain help you attain your highest programming goals with four of our best function libraries. Give them a try. Who knows what heights you will reach with the right set of tools.

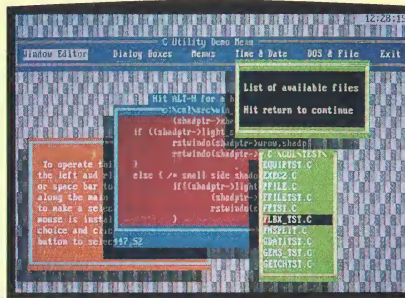
## HOLD EVERYTHING™



If you program in C, you can't afford to be without the latest version of South Mountain Software's memory swapping utility. If you can write the code, Hold Everything can swap it out of memory to make room for another application. A simple function call is all it takes. No worries about interrupts, video modes or memory conflicts.

- Saves/Restores Video Mode & Video Page
- EMS Use May Be Toggled On & Off
- Supports EMS 3.2+ or Disk Swapping
- Extensive Error Trapping & Recovery
- Combine with /\*resident\_C\*/
- Includes Drive Directory File Specifications

range of menuing capabilities, and just about every C function known to man. The power and versatility of South Mountain Hyper Functions make building even the most complex programs a snap. Advanced screen handling, expanded memory management, and complex data and string manipulation are just a simple function call away.



- Communicate Between TSR and Foreground Programs
- Allows Background Processing

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Few things in life are truly essential. But if you create custom databases in C, the Essential B-Tree database management library is an indispensable tool for building that dream DB application. You have complete control over your data with Index Sequential Access Method (ISAM) routines. And now, Essential B-Tree is Unix compatible for even greater portability!

- Fastest Access Method Available
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- Automatic File & Record Locking
- Supports Single/Multi User & Network Databases

- Screen Painter & Code Generator
- File Backup Utilities
- Window Editor/File Browser
- Multiple Overlaid Windows
- List Boxes & File Boxes
- Integrated Mouse Support
- Shadowing Capabilities for Menus

## /\*resident\_C\*/™



This is the TSR utility library that your programs can truly live with. A full complement of Interrupt Service Routines (ISR's) and complete interrupt handling, means you can count on safe, reliable code swapping. The ability to handle shared libraries gives your code maximum efficiency and the broadest possible compatibility. All you need is one simple function call to turn your programs into TSR's. Now the /\*resident\_C\*/ kernel requires even less memory than before!

- Keeps Only 4K of the TSR in Memory
- Activated by Key Stroke or Timer
- Includes Super Keyboard Stuffer

## C UTILITY LIBRARY™



Over four hundred functions and growing! The South Mountain C Utility Library features the fastest screen handling routines available, a full

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has supplied the highest quality, most up to date C programming tools and libraries for over five years. Every product comes with a 30 day, money back, guarantee. We provide free telephone support from experienced programmers, and you never pay a run-time fee or royalty to South Mountain. Our goal is simple, to give you the best C programming tools on the market today.



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**CLIPPER****Dr. Switch DevPak**  
Black & White

1178-004

Run memory intensive programs like editors, word processors, report writers, graphics and backup utilities directly from Clipper, dBASE R, Force, FoxBASE+, FoxPro, QuickSilver, and Vulcan within 640K. Enhances RUN! by providing memory swapping, protection from TSRs or warm boots. No royalty on runtime.

**Dr. Switch-ASE**  
Black & White

1178-006

Turn Clipper applications into RAM-resident programs occupying 13K. Applications can pop-up on top of word processors or spreadsheets. Includes support for swapping to expanded or extended memory. Link directly into Clipper applications with no royalties or runtime fees.

**MANY/OTHER****EXEC****Blaise Computing**

269-005

Enables one program to chain another with 2K overhead. Specify default successors to chain other's programs without breaking chain. Each program completely replaces predecessor without memory contention, restarts from beginning. Supports C, Pascal, Turbo Pascal, BASIC, and assembly.

**Overlay****Gambit Software**

1618-001

Run any program, regardless of size, from within applications. Allocate all or part of DOS memory, pass parameters to external program, get DOS errorlevel set by called program, modify DOS environment, EMS and extended memory use, load and unload TSRs, much more. No runtime licensing fees. Available for C and Clipper. Specify C compiler. Clipper version 5.0 compatible.

**MultiDos Plus****Nanosoft**

1050-001

Preemptive multitasking executive with 256 priority levels and compatible with DOS. Features intertask message communication, semaphores for task synchronization and resource control, operator commands to load/run programs, suspend change priority, etc. Support for expanded or extended memory.

**DESQview API C Lib/Reference****Quarterdeck**

847-001

Interfaces for API functions, including source code and sample programs. Also with API reference manual for writing assembly language applications. Include file contains symbols and macros. Available for BASIC, C, Clipper, dBASE, and Pascal.

**DESQview API Panel Design****Quarterdeck**

847-001

Design windows, menus, help screens, error messages, forms. Editor included for constructing images. Group streams into libraries or store as part of program. Includes example panels.

**DESQview API Tools****Quarterdeck**

847-001

Use all DESQview menu functions and directly control DESQview multitasking, windowing, intertask talk, mailboxes, shared programs, mousing, more. Available for BASIC, C, Clipper, dBASE, or Pascal. Specify language.

**DESQview API Debugger****Quarterdeck**

847-001

Single-step or trace API calls by multiple concurrently running DesQView applications.

**Hold Everything****South Mountain Software**

42-043

Library allows user to swap out currently executing programs and return to DOS with almost all available memory ready to be used. Saves active memory to disk or EMS. Saves current video mode and page. Includes full source. Supports C, dBASE, Clipper, Pascal, and BASIC.

**PASCAL****VMMgr****O.K.Soft**

3018-001

Turbo Pascal memory manager library. Manage arbitrarily sized multimegabyte virtual heaps, swaps to disk, extended or expanded memory, dereference transparently. Supports LIM/EMS, LIM/XMS, disk head movements, EMS page remapping optimization, heap plausibility checking. Source code included.

**DESQview API Pascal Lib/Reference****Quarterdeck**

847-001

Pascal interfaces for API functions, including source code and sample programs. Also with API reference manual for writing assembly language applications. Include file contains symbols and macros.

**TSRs Made Easy****Turbo Power**

167-025

Routines to create conventional TSRs or swapping TSRs that use only 6K. cont'd.

Includes TSR swapping to EMS, XMS, or disk. Selectable hot keys, keyboard macros, unloadable TSRs, 8087 TSR support, interface to transient programs, ISR handling, and more. Includes source code. No royalties. Requires Turbo Pascal 5.x or 6.0.

**PRINT LIBRARIES AND BAR CODES**

Libraries for printer control, including high-resolution graphics. Libraries and standalones for bar code printing. See also Graphics Libraries; Print Control and Font Editors; PostScript; Presentation Graphics; Desktop Publishing and Text Formatting.

**GrafPrint Developer****Ansoft**

3030-009

Printer graphics libraries. Uses host compilers screen graphics, transparently maps graphics to the printer or file. Supports HP LaserJet/DeskJet/Color PaintJet, Epson FX/LQ, Postscript, .PCX files. Compatible with Turbo C/C++, MS C, Quick C, Watcom C, and Watcom C/386. No royalties.

**Baby Driver****Autumn Hill Software**

1263-002

Allow applications to print bitmapped images from screen or memory buffers. Supports over 300 printers. Image scaling, portrait or landscape, color and gray scale rendering. PCL function set for HP compatible laser printers. Supports Postscript, HP Paintjet, Tektronix ColorQuick. Unix & Source versions available. Specify C or Turbo Pascal. Source version available.

**Bar Code Library w/source****Computer Connection**

899-011

Routines for generating, positioning, sizing, and printing bar codes. Supports Epson, Toshiba, IBM Proprinter, HP LaserJet, and all PostScript printers; additional drivers available. Prints 11 different kinds of codes, including ZIP+4 codes. Includes source. No royalties.

**Label Master****Computer Connection**

899-020

Enhanced version of Quick Draw that prints any size label or form with bar codes, variable size text, lines, etc. Incorporate logos, pictures, diagrams. Design using WYSIWYG interface with mouse support and menus. Formats supported include dBase III, ASCII, DIF, Spreadsheet. Supports many types of printers.

**GRAF/DRIVE PLUS Developer****Fleming Software**

1959-001

BGI-compatible graphics drivers for Turbo C/Pascal. Implements most Turbo screen graphics functions for LaserJet and Epson, postscript, and HPGL pen plotters. Often a graphics program can be ported to a hard copy device by 'installing' a hard copy driver instead of a screen driver. No royalties. Supports both Turbo C, Turbo C++, and Turbo Pascal.

**GRAF/DRIVE PLUS Personal****Fleming Software**

1959-001

BGI-compatible printer driver. Same features as GRAF/DRIVE PLUS Professional but cannot be distributed. Supports both Turbo C 2.0 and Turbo Pascal 5.x.

**LaserControl****Insight Development**

982-001

Control HP LaserJet, Plus, 500 Plus, Series II, DeskJet and compatibles. Max resolution graphics, scale, layout. Data compression for faster printing. Pop up menus.

**Plotmatic****Jewell Technologies**

1097-005

Fortran libraries to control pen plotters. Supports all HP plotters and Houston (DMP 29 and above) with complete command set, all Grafmatic 2-D and 3-D commands. HP plotters need HP cable 17255. Supports RM, Lahey and MS Fortran compilers.

**Printmatic****Jewell Technologies**

1097-006

Fortran library for dot-matrix and laser printers. graphs to printers. Supports full printer resolution, over 100 printers, full GRAFMATIC 2-D and 3-D plotting. Supports RM, Lahey and MS Fortran.

**PrintPak****Jewell Technologies**

1097-003

Printer library provides printer and image file format support. Bitmapped images can be printed from screen or virtual memory to most dot matrix or laser printers. Supports up to 256 colors and 64 shades of grey. Image is scalable or printed in portrait or landscape. Creates many different file formats. Supports Microsoft C and Turbo C.

**PrintWare Tool Kit****Laser Age**

2111-001

Imports printer control codes into source code through keyboard buffer in format of C, BASIC, dBASE, assembly, and other languages. No royalties. Supports most languages and printers.



# BAR CODE LIBRARY

Bar Code Printing Can Now Be Part Of Your Programs With Bar Code Library!

Accuracy

Versatility

Quality

NOW  
Release II

- Increase profits
- Enhance productivity
  - DOS, Unix, and OS/2 compatible
  - Integrates with C, Clipper, more
  - Supports most PC printers
  - Money back guarantee

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See product listing in the LIBRARIES section

New  
Version 2.1

## GRAF/DRIVE PLUS Graphics Drivers for Turbo C and Turbo Pascal

### Turbo Graphics for Printers and Plotters

Publication-quality graphics for LaserJet, Epson, PostScript, PaintJet, HPGL, etc. The same code plots on screen, printer, or plotter. Just plug our BGI-compatible drivers into Turbo's *initgraph*.

- Arc, bar, bar3d, circle, fillpoly, line, ellipse, pieslice, line/fill patterns, and more—all 100% interchangeable with Turbo's screen graphics. Plot to LPT, COM, or disk file.
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- Not a screen dump. You get the full resolution of the output device.
- Not TSR. Loads on the heap at runtime.
- Over 2500 copies in use world-wide. Our customers include Harvard, UCLA, Hewlett-Packard, TRW, and Los Alamos Labs.
- "Highly recommended." - Jeff Dunteman, Dr. Dobbs, 11/90.

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## CLIPX™

Professional CLIPPER  
development library

CLIPX.LIB, an integrated set of functions for Clipper, will help you create truly sophisticated applications with advanced and highly friendly user interfaces. Try CLIPX and find out what amazing things are possible!

### SCREENS & IMAGES

A whole arsenal of screen and image handling functions: mapping, copying, cutting/pasting, text/attribute reading/writing, painting, clearing, box drawing. Images of various sizes: smaller/larger than the screen. Image squeeze/unsqueeze functions for RAM saving.

### WINDOWS

Windows can "explode/implode," as well as slide in 4 directions (like in Sidekick).

### TABLE HANDLING

Frustrated with DBEDIT? Try **DBHANDLE** —a powerful function handling databases and arrays! Superior to DBEDIT, ACHOICE and TBOUSE of Clipper 5.0. Here are some features of **DBHANDLE**:

- Access can be restricted to an index based **PARTIAL TABLE**. No more "SET FILTER!" No more performance degradation! Easy solution for hierarchical relationships.
- "Exploding/Imploding" window option.
- Full program control over the colours of the window, frame, bar, columns, headings, title.
- Works with both databases and arrays. Like DBEDIT, can interface with a UDF, plus lets it control over 50 internal parameters!
- Lets your user freely move the window around the screen, resize it, scroll within it vertically and horizontally (panoramic table viewing with **lockable display fields**).
- Your user can zoom into any line by typing one or more characters of the key (using the built-in **dynamic SEARCH** mechanism). The search key automatically highlights.
- Highlight either individual fields (like in DBEDIT) or **all fields at once** (with one continuous bar showing across the window).

- Screen area under the window is automatically saved and restored.
- All controls are redefinable on-the-fly. All options can be enabled and disabled.

### DATABASE

DBGEN creates new database files. DBVERIFY checks your DB file structures. DBSEEK finds the first/last/next/previous key occurrence with an **instantaneous access**.

### MENUS

Powerful BARMENU handles 4-directional matrix-style option selection. Other option functions: BARLINE, CHOICE, FCHOICE.

### STRING & CHAR. FUNCTIONS

Formatting, justification, search, counting, translation, conversion, etc.

### OTHER FUNCTIONS

Base conversion, determination/modification of any SET parameters, date functions, printer testing, debugging functions, and much more!

Both a printed manual and on-line documentation for Norton Guides are included. Function names will never conflict with those of other libraries. Clipper 5.01 compatibility guaranteed (where applicable, free upgrades will be provided).

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Clipper is a trademark of Nantucket Corporation.  
Sidekick is a trademark of Borland International.  
Norton Guides is a trademark of Peter Norton Computing.



**Escape**

Pinnacle Software

1235-018

Laser printer library for Clipper facilitates high level control of HP LaserJet Series. Supports cartridge and soft fonts, full page control, box, shadow, pattern, and rule drawing, for columns and rows. Database Publishing capabilities.

**SymScript**

Symbiotic Info Systems

5025-001

Fully functional library for producing PostScript output directly from any xBASE product. Numerous fonts, scalable to any size, are available in many formats. Lines, circles and boxes are also available in many sizes, shapes, etc. Multi user versions available.

**SLATE**

Symmetry Group

891-001

Flexible printer interface library. Underline, position fonts, other text functions. Supports over 400 printer types. Screen based configuration for end user setup. No royalties.  
*Supports Microsoft C and Aztec C.*

**SLATE with Graphics**

Symmetry Group

891-005

Adds graphics printing support to SLATE with over 60 image and graphic transformation functions. Intermix text and graphics, scale images independent of printer resolution, correct image aspect ratio.

**dBarCode**

Timekeeping

1229-002

Prints bar codes from dBASE III+ and compatibles. Can be used as a standalone. Variable heights, mix with ASCII. Supports code 3 of 9, code 2 of 5, interleaved 2 of 5, UPC A formats; dot matrix, LaserJet printers.

**SORT UTILITIES**

Utilities for sorting database, numerical, text, and other data files using various algorithms.  
*See also Sort Libraries.*

**COSORT**

Information Resources

63-001

Sorting/merging with unlimited files, records, and keys. Interactive and batch operation. Link to C, FORTRAN, COBOL, and more. Optional user input, compare, output, and interrupt procedures. Additional material for C and FORTRAN development. Workalikes in UNIX/XENIX.

**Opt-Tech Sort**

Opt-Tech Data Processing

104-003

Assembly language sort/merge/select utility. Callable from DOS or user program. Unlimited files; up to 30 key fields can be searched. Royalties apply.  
*Supports almost all popular compilers.*

**TEXT PROCESSING LIBRARIES**

Libraries and utilities for direct processing of text.  
*See also Word Processors and Outliners; Editors; and Text Screens.*

**POWER SEARCH**

Blaise Computing

269-023

Searches for character strings or regular expressions in DOS and OS/2-based applications. Generates customized code to search for given string or pattern, including wildcards representing digits, upper or lower case letters, etc. Source included. No royalties.  
*Supports MS C, QuickC, Turbo C, Turbo C++.*

**String External Tools**

Network Dynamics

3892-001

C library which externalize textual prompts and messages for translation into foreign languages. Supports string editing (or encryption) without recompilation, reduces static data space, and maintains format control characters. Compatible with popular C compilers. Includes royalty-free license.

*Source code available.***Word Wrapper**

STRATEGIC EDGE

1942-001

Memo field alternative that stores text in standard .DBF fields (only saving used lines). Editor has automatic paragraph-reformatting and can cut, copy paste, search & replace. Includes source code for Clipper, Fox, dBASE IV & Quicksilver.  
*Supports Clipper, Foxbase, dBASE IV and Quicksilver.*

**TE Developer's Kit**

Sub Systems

1100-001

Complete C source code. Includes TE text editor with key stroke macros, large file handling, undo, and more. TER small editor routine.

**ProBas HyperHelp Toolkit**

Hammerly Computer

1164-007

Hypertext engine allows you to put full manuals online with full search abilities. Specify single or multiple windows, and window color and placement. User can move and resize windows, use mouse or keyboard, and use up to 40 bookmarks to move between links. Hypertext can be created from any ASCII text. No royalties.  
*Requires ProBas library.*

**TEXT SCREENS**

Libraries for designing screens for data entry and other interfaces on the text screen.  
*See also Operating System Enhancements; CASE and Code Generators; Data File Handlers.*

**BASIC****QuickMenu**

Crescent Software

716-006

Non-memory resident DOS menuing system. Assign commands to menu selections, up to 9 choices per menu, unlimited number of menus, full screen editor, password protection. Complete BASIC source included.

**QuickScreen**

Crescent Software

716-020

Screen painter with provisions for field-by-field editing with data validation, online help, 17 field types, and automatic field calculations using BASIC syntax. Screens are stored in compressed screen libraries and can be stored and used as .OBJ files. Full QuickBASIC source included.  
*Requires QuickBASIC or Basic PDS.*

**Pro Screen**

Hammerly Computer

1164-004

Screen painter for 80x25 or 80x43 screens, good color control, edit three screens at a time, up to 130 fields per screen, 19 predefined and user-defined masks.

**Designer QuickWindows**

Software Interphase

1040-005

Object-oriented screen layout tool for QuickWindows Advanced. Includes windows, help screens, dialog boxes. Text and object editor works in multiple windows. Edit object parameters, save screens, QuickBASIC source code generator, mouse support, context-sensitive help, more.

**QuickWindows Advanced**

Software Interphase

1040-004

QuickWindows for text screens with additional graphics- mode capabilities. Windows, menus, data entry, dialog boxes, mouse support and more. Source available.  
*Supports QuickBASIC.*

**C****HIM (Human Interface Manager)**

Allsoft

1837-020

C library for handling windows, menus, keyboard, text editing, data entry, and on-line help. Features four styles of menus, tag lists, mouse handling, idle background processing, keyboard macros, and protability between DOS, VMS, UNIX, and XENIX.

*Specify Microsoft C, Quick C, or Borland Turbo C.***CUA Library/CUA Workbench**

Arcadia Technologies

3318-003

Graphical User Interface C library for building SAA/CUA compliant applications. Provides function calls to dynamically define panel elements such as action bar, pull-down, entry field, selection field, etc.

**Curses**

Aspen Scientific

688-002

Implementation of the full UNIX curses package: screen attributes, windows, etc. Includes screen generator, version of UNIX make. OS/2 support, no royalties. UNIX System 5.3 compatible. Version with source code available.  
*Specify C compiler.*

**Vitamin C**

Creative Programming

31-020

Interface library includes many menu and window types, input fields, push buttons, check boxes, list boxes, scroll bars, help manager, pop up text editor, fully integrated mouse support. Open architecture full of hooks for customization and extensibility. Source, telephone and BBS support included. Portable.

*Specify MS C, Turbo C/C++, or Watcom C.***VC Screen**

Creative Programming

31-001

WYSIWYG screen painter and code generator for Vitamin C.  
*Requires Vitamin C.*

**Crystal CURSES**

Crystal Software

4373-025

Screen management library that enables building of UNIX System V compatible code for DOS. Functions include facilities for window management with attribute, color, and border control. Controls characters, strings, timing, sound, keyboard, text moving, cut-and-paste, and window buffering.  
*Supports Microsoft, Watcom, Turbo C++, and Zortech C++.*

**Greenleaf DataWindows**

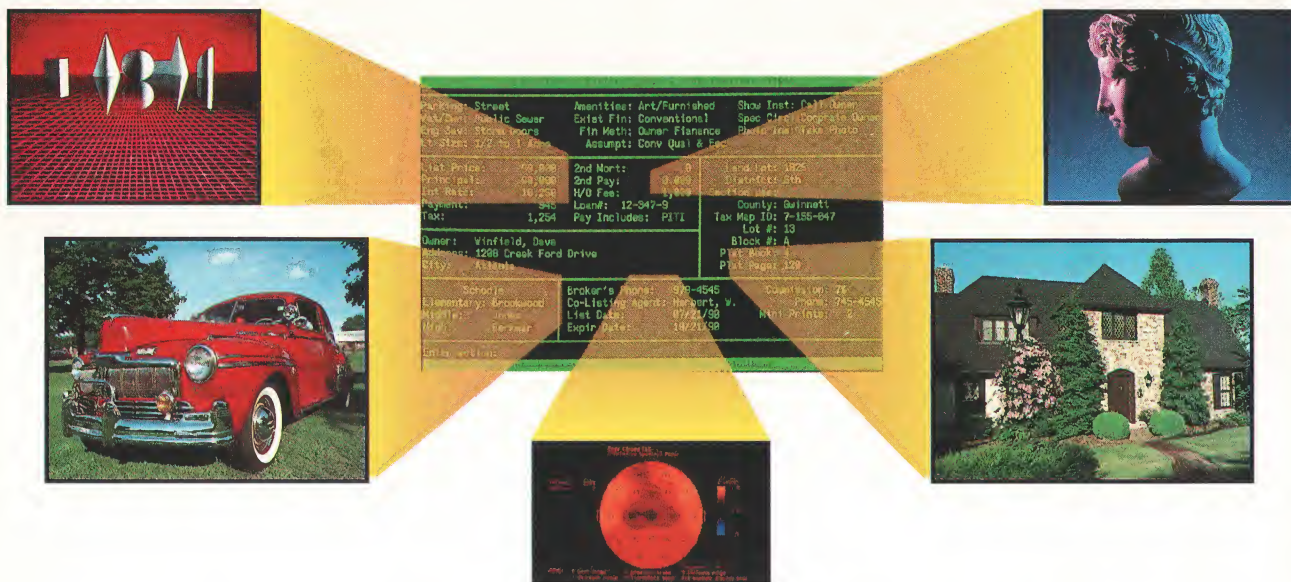
Greenleaf Software

55-010

Windowing system features 254 simultaneous overlapping windows, device independence, Windows/TopView compatibility, save/restore windows to disk, 3 types of menus, scrollable forms, running totals, data help/ validation/journaling. No royalties. Source free with registration.  
*Specify C compiler.*



# Change The Image Of Your Database In Seconds



## Introducing QuickPix

**Now You Can Combine Images With Any DOS Application — Without Reprogramming**

Until now, imaging has been a specialized field. One that required custom programming and the knowledge of experts. Maybe that's why thousands of database designers have been "locked out" from its benefits.

But that's about to change. QuickPix, from PowerSoft, lets any database designer seamlessly integrate images into existing databases.

### **Application transparent and easy-to-use**

QuickPix is easy to use. It requires no special programming and doesn't require callable versions that work with only a few systems. And because it's application transparent, it works with any existing application and within existing user interfaces.

And, QuickPix uses industry standard ".PCX" graphic files, so it can accept images from almost any scanner, video frame grabber, digital camera or graphics software.

Think of the possibilities. Now you can quickly add photos of products, personnel, inventory,

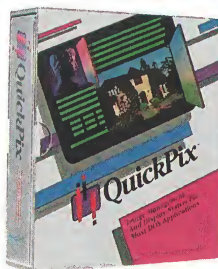
real estate, art, and much more, to any database. Or, you can create document retrieval systems using dBASE™, R:BASE™, FOXPRO™, Paradox™, and even Lotus 1-2-3™ or WordPerfect™.

And that's only the beginning. QuickPix lets end-users display an image at the touch of a key. Once displayed, the user can resize, move, scroll, pan, zoom, or print the image.

### **Breathe new life into existing databases!**

If you're looking for a way to enhance and improve your existing database — without jumping through hoops — or if you'd like to develop a new application with integrated graphics, take a look at QuickPix. You'll get a fast, easy path into imaging technology, and your users will get the productivity boost of graphics while retaining the comfort and familiarity of their existing applications.

Call today. We'll show you how to give your database a new image.



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**PowerSoft**

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**1-800-437-4128**

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**MakeForm**

Greenleaf Software

55-031

125

119

Advanced C screen generator for Greenleaf DataWindows. Full featured editor for data entry form design. Functions for cut, paste, block move, copy.

*Specify C compiler.*

**MEWEL Window System**

Magma Software Systems

769-005

295

279

Character-based window system and library for building applications with look-and-feel of MS Windows or Mac applications. Adhere to SSA/CUA standard. API similar to MS Windows API at message and function level. Support for all controls in Windows. Mouse support; EGA or VGA. Full sibling, parent/child clipping.

*Supports Microsoft C and Turbo C. Lib.*

**MEWEL Window Sys w/source**

Magma Software Systems

769-005

595

569

Includes library source.

**C Windows Toolkit**

Magna Carta

1438-004

100

95

Window management library provides multiple overlapping windows, exploding window effects, up to 255 active windows, unlimited total number of windows, store/reload windows from disk, data entry validation, editor functions. Support for Hercules/EGA/VGA 30/43/50 line modes, fonts and color. Full source included.

**C Windows Toolkit/386**

Magna Carta

1438-004

200

189

C Windows Toolkit for Watcom 386 runs in protected and real modes. Includes 8086 version. Many windowing and data entry features.

**PANEL Plus II**

Roundhill

129-026

495

429

Screen management library includes data entry, menus, windows. Includes screen painter, code generator, full library source. Per-programmer pricing.

**C Worthy Interface Library**

Solution Systems

732-171

449

379

Includes interactive screen designer - cwARCHITECT, to develop user interface without recompiling or linking. Features full mouse, keyboard support, buttons, color customization, internationalization, many menu, window and form types, enhanced support for CUA-compliant applications. Graphics mode and PCX file support.

*Works with MS, Turbo C, and Turbo C++.*

**C Worthy Library w/source**

Solution Systems

732-169

649

549

C Worthy with source code to the libraries.

**cwARCHITECT source**

Solution Systems

732-173

599

549

Source code to cwARCHITECT, the application generator that comes with the C Worthy Library.

**Graphex**

Vermont Creative

169-061

149

139

Use Vermont Views output in CGA/EGA/VGA/Hercules graphics modes. Save/restore graphic images overlayed by windows. Use the graphic functions provided with your compiler or with Essential Graphics, Metawindow, or Halo to draw on the screen within your application. Available with source.

**Vermont Views w/ Designer**

Vermont Creative

169-035

495

469

C-language user interface library for data-entry forms, menus, windows, help, and keyboard handling. Interactive editor allows creation and modification of data-entry forms and menus. Code written with Vermont Views fully portable between DOS, OS/2, UNIX, XENIX, and VMS. Source versions available.

*Specify MS 5.x C, MS 6.0 C, Turbo C 2.0, Turbo C++.*

**Instant Windows/DOS**

Winsoft

2609-002

249

201

Generates code for SAA user interfaces with data validation, scrollable tables, dialogs, mouse, menus, buttons, icons, scroll bars, combo boxes/choice lists, directories, text file display/editing, color and error message support. Port across Windows, OS/2; connect to communications, SQL, dBASE, and Btrieve.

*Requires MS C 5.0 or higher.*

**C++****C++ Windows Toolkit**

Magna Carta

1438-009

200

189

Interface library provides multiple overlapping windows through user extensible classes. Completely object oriented. Virtual screens, menus, data-entry validation, turn a window into an editor. Full mouse support. Supports many video cards and modes.

**COBOL****SCREENIO**

Norcom

649-001

400

379

Screen manager for COBOL. Full screen editor for designing screens. Create and use full screens and windows, redefine keys, specify tabbing order, modify colors at runtime, do integral fields validation, more. Options to import BMS (CICS) or SDA (System/36) panels. No royalties. *Supports Realia, IBM, Micro Focus, and Microsoft COBOL.*

**MANY/OTHER****Flash Tools**

Avis-Hills

1201-002

89

63

Interface development package includes a WYSIWYG screen painter with over 20 special effects, a menu designer with dynamic menuing ability (items determined at runtime), and many low-level functions. *Specify dBASE, C, or Pascal compiler/interpreter.*

**Face-It**

Black &amp; White Intl.

1178-002

99

80

Windowing system automatically sizes windows to fit the layout of your .DBF or ASCII files. Uses data file structure to create menus. Supports context-sensitive help, mouse support. No royalties. *Supports most popular compilers.*

**POWER SCREEN**

Blaise Computing

269-015

149

99

Design data entry forms or windowing interfaces. Screen painter and routines for range checking, help, and definable keys. Supports QuickBASIC, MS C, QuickC, Turbo C, QuickPascal, Turbo Pascal.

**SoftCode**

Bottleworks

3181-001

195

195

Screen editor and code generator works with several languages. Data validation and range checking. Includes one template for C, BASIC, dBASE, Pascal, Fortran, dBSL/QuickSilver, Modula-2, Basic Btrieve, or C Btrieve. *Specify language.*

**Saywhat?!**

Software Science

1098-001

50

45

Stand-alone tool set for creating screens for menus, data entry, data display, help panels, "slide shows." Display screens through any programming language with one line of code. Also can create screens to be displayed directly from keyboard and batch file scripts.

**HI-SCREEN XL Professional**

Softway

781-001

325

289

Creates and manages windows, menus, data entry screens. Graphics and mouse support. Mix text and graphics on same screen. No royalties. *Supports most popular compilers.*

**MODULA-2****Solid Windows Professional**

Solid Software

2716-008

495

440

Includes Solid Windows. Screen Painter creates menu prototypes without writing code. Library with mouse support, vertical scrolling, context-sensitive help, accelerator keys, virtual memory system for menus. Many validated data entry fields; support for user-written. Use DOS country info for international program support. *Available with source.*

**VOICE AND FAX BOARD PROCESSING**

Libraries for using and controlling voice and fax boards.

*See also Modems and Fax Boards; Voice Boards*

**Multi-FAX**

ITI Logiciel

3323-008

199

189

Library of routines to receive or send faxes within applications. Uses CAS specifications (Intel, SpectraFAX, DCA). Up to 4 boards in a single PC. Can be used with Multi-Voice or stand-alone. Source code and examples included. No royalties. *Supports Turbo Pascal, Turbo C, and Microsoft C.*

**Multi-Voice**

ITI Logiciel

3323-001

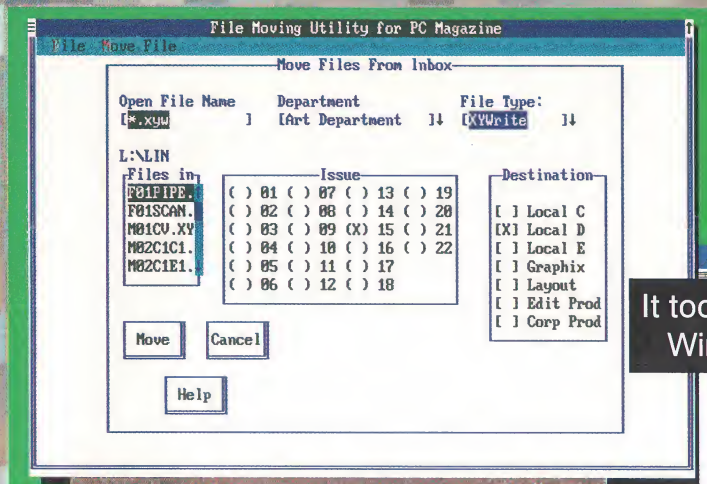
539

479

Over 150 routines to write voice applications for Dialogic or Rhetorex speech boards. High level routines to play numbers, date in English, French, and Spanish. Supports up to 48 phone lines in one PC. Integrated multitasking kernel. Source code and examples included. No royalties. *Available for Turbo Pascal, Turbo C, Microsoft C.*

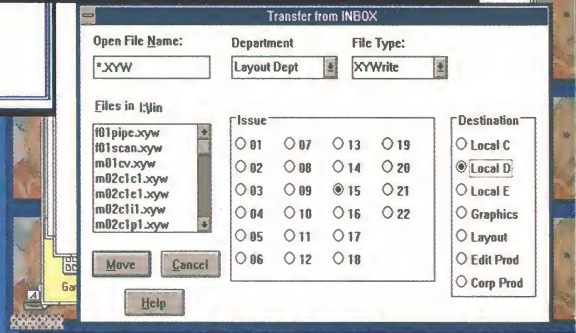


# MEWEL 3



**A Microsoft Windows  
Interface for your product ...  
in Character Mode!  
(Windows not required!)**

**It took us 20 minutes to port the  
Windows version to MEWEL!**



## MEWEL version

The only text-mode windowing library which is fully SAA/CUA compliant. Use the sexiest user-interface available for your applications.

The MEWEL API is compatible with the Windows 3.0 API. Many companies are doing simultaneous Windows and MEWEL development.

Supports overlapping, moveable, and resizable windows and dialog boxes. Pushbuttons, checkboxes, radio buttons, comboboxes, listboxes, scrollbars, multi-level pulldown menus, mouse, single and multiline edit fields, data entry capabilities. Windows compatible MDI. Interface to Microsoft help engine available.

Interested in C++? Try CNS'  
C++/Views for MEWEL and Windows.

## Windows version

### MEWEL 3.2

with full source code **\$595** Please add \$5 for shipping,  
Libraries only **\$295** \$20 outside US. Specify  
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TopSpeed C, Zortech C++ Mode. Visa and Mastercard  
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# TGL Inc. Turbo-to-C Tools

## Complete Package **\$995.**

Turbo-to-C Tools is a complete software package for converting IBM PC/XT/AT programs written in Turbo Pascal into equivalent programs written in Turbo C, Microsoft C, and K & R standard C.

This package contains everything you need to translate any Turbo Pascal source code program into C:

√ Preprocessor converts all nested procedures, with statements, and include files to a standard Pascal format.

√ Converter translates Pascal source into equivalent C source that can be compiled by Turbo C, Microsoft C, and other K & R C compilers.

√ Libraries support the many extensions to Turbo Pascal such as string, file, heap management, math, and screen I/O functions.

√ Compatible: will run on any MS-DOS machine, with at least 512K of RAM, and two disk drives -- hard disks are recommended.

√ Manual contains a complete description of techniques used to convert quickly and painlessly.

**(503) 745-5880**

## Preview of Turbo-to-C Tools

Here is a sneak preview of Turbo-to-C Tools. Turbo-to-C Tools quickly and efficiently translate programs containing....

- √ include files—convert monolithic Turbo Pascal source file to modular C files,
- √ any level of nested procedures—convert to static, private, un-nested C,
- √ comments—carried over to C source,
- √ all data types -- arrays, records, file record variants, enumerated types, sets, strings, pointers,
- √ all operators --including extended --div, mod, not, or, and, xor, shl, shr, string+, set operations, relationals,
- √ all control constructs -- difficult ones--array cross-sections, case, for, goto, if, repeat, while, with, halt, and exit,
- √ intrinsic functions --plus extensions--screen I/O, e.g. gotoxy, clr, strings, e.g. copy, concat, insert, delete, length, pos, str, val, file operations, e.g. assign, blockread, blockwrite, close, eof, eoln, filepos, filesize, read, readln, reset, rewrite, seek, seekeoln, seekeof, write, writeln,
- √ unusual extensions such as absolute variables, move, fillchar, frac, hi, lo, paramcount, and many, many more!

## The Best Translators In The World

TGL Inc.  
27096 Forest Springs Ln.  
Corvallis, OR. 97330

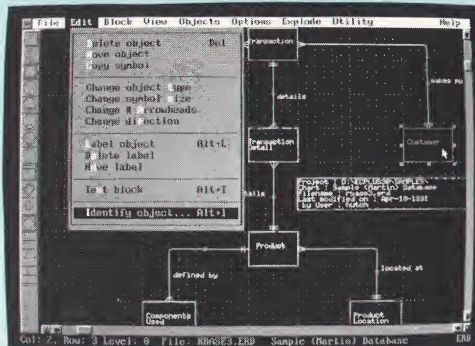


# EasyCASE™ Plus

The affordable approach to software engineering... only \$495

NEW!  
VERSION 3.0  
Call for upgrade details.

Finally, there's a CASE tool that won't get in the way of your creativity... A tool that makes structured analysis, structured design and data modeling as easy as working with any other tool on your PC - EasyCASE Plus! Using EasyCASE Plus' new, easy to use graphical user interface (GUI), you'll be creating and editing charts, linking them, and building your data dictionary in no time. As well as being easy to use and easy to learn, EasyCASE Plus is easy on your budget! Ask any user. They'll tell you it's the best buy for your PC based CASE tool needs. Discover why over 4,000 software professionals use EasyCASE Plus and how you can join them!



"EasyCASE Plus is a well designed, low priced tool that is easy to learn and provides excellent diagramming capabilities... EasyCASE Plus is an excellent investment."

COMPUTER  
LANGUAGE  
PRODUCTIVITY  
AWARD  
1990

## Features:

- IBM SAA/CUA compliant graphical user interface (GUI)
- Extensive diagram editing features
- Integrated dBASE III compatible data dictionary
- Integrated dictionary manager, reports manager, process editor
- Hierarchical chart linking & process decomposition
- Record and element definitions
- Extensive printer, plotter and desktop publishing support
- Data dictionary import, export, and merge
- On-line help
- Comprehensive documentation with tutorial
- Access to your database, word processor, DOS, etc.
- Integrated diagram analysis (optional)

## Requirements:

Runs on: IBM PC or PS/2 (AT recommended), DOS 3.1 or higher, EGA/VGA color, mouse, 640 K RAM (500 K free), 1 MB EMS recommended, math co-processor supported. Printers/Plotters Supported: Epson FX & LQ, IBM Graphics & Proprinter X24, HP QuietJet, DeskJet, & LaserJet, HP Plotters, PostScript.

**EasyCASE Professional . . . . \$649**

(includes integrated DFD level balancing and data dictionary/diagram analysis)

## Methods:

- Yourdon/DeMarco
- Gane & Sarson
- Ward-Mellor/Hatley
- Yourdon/Constantine
- Martin
- Chen, Bachman

## Diagram Types:

- Data Flow Diagrams (DFDs)
- Structure Charts
- State Transition Diagrams
- Entity Relationship (ERDs)
- Data Model Diagrams
- Transformation Schema (real-time DFDs)

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"We spent months using and analyzing in depth every other installer we could find. Then we did a company-wide survey to find out all the things we could possibly want in an installer. When we later saw INSTALIT we knew within hours that this would be our corporate standard for software installation. INSTALIT does it all." - MAJOR SOFTWARE DEVELOPER

If you distribute software or data products, huge or small, simple or complex, INSTALIT can help you make attractive, professional looking installers. And it's backed by the industry's most liberal upgrade and return policies. Not convinced? Download INSTDEMO from our BBS and spend an hour trying it with your product today! No royalties or relicensing for use with all your products!

DOS Multilingual version allows translation/rewording without source code involvement and includes numerous pre-translations including most European languages.

INSTALIT for DOS \$149 ♦ INSTALIT for DOS and Family API W/C Source \$249 ♦ INSTALIT for Windows \$199 ♦ INSTALIT for Windows W/C Source \$299 ♦ INSTALIT DOS MULTI-LINGUAL \$249

HPI

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Specify  
National Language

## If Your App Never Swaps, Stop Reading This Ad

However, if you are beset by other apps stealing **your** memory, or by real mode users, then your app occasionally crawls because of disk thrashing. There simply isn't enough memory to run comfortably, even with virtual memory and object caching.

If this sounds familiar then you need **SegMentor™**. It optimizes your segmentation map so your app screams even when your user's memory is scarce.

**SegMentor™** traces the entry point, exit point, and timing data for absolutely every one of your functions in a typical runtime session[s].\* Then, it employs powerful algorithms, like those for auto-routing printed circuit boards, to explore the solution space for an optimal segmentation map. You get a more compact app with the fewest inter-segment (disk thrashing) calls. We even put the pragma directives for this new map in an include file for easy linking back into your code.

See feature article in March 1991 Microsoft Systems Journal (pg 49)

\*If this profiling looks illuminating compared to your statistical analyzers and source code filters, call for more information on **Performance Tracer™**. It gives you a **precise** and **complete** view of **exactly** what occurs in your app at runtime — call trees, object sizes, call counts, function times, and more.

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## CASE TOOLS

Computer Aided Software Engineering: tools for automating the development of source code. CASE tools are designed to automate many different phases of general program development; some CASE tools assist only the design phase.  
See also *Code Generators; Diagrammers and Documentors.*

**EasyCASE Plus****Evergreen CASE Tools**

2066-005

295

279

Uses data flow diagrams, structure charts, state transition diagrams, data model diagrams, and entity relationship diagrams. Supports Yourdon/DeMarco, Gane & Sarson, Ward-Mellor/Hatley, Yourdon/Constantine, and Chen/Martin methods. Features dBASE III+ export, chart linking, process editor, and DTP support.

*Requires MS or compatible mouse; Hercules, EGA, or VGA.*

**EasyCASE Plus Professional Pack****Evergreen CASE Tools**

2066-007

395

359

Includes same features as EasyCASE Plus. Adds DFD level balancing and diagram rule checking. Identifies objects used inappropriately, checks for correct definition of composite data structures and elements.

*Requires MS or compatible mouse; Hercules, EGA, or VGA.*

**Design/OA****Meta Software**

1294-004

7,500

6,500

C graphics application development tool that builds systems modeling tools using windows. Develop CASE, CAD/CAE, object-oriented programming, or simulations. Create front ends to databases, code generators, networks, or data processing systems.

*Requires MS Windows SDK, MS C, mouse.*

**Personal-SELECT/YOURDON****Select Software**

3903-002

995

925

Single user full function analysis and design tool for the Yourdon methodology with Ward-Mellor and Hatley extensions. Includes data flow diagrams, state transition diagrams, entity relationship diagrams, structure charts, and data dictionary.

**BestChoice3****Sterling Castle**

303-008

99

89

Assists in any problem requiring alternative analysis. Useful for determining program design specifications, features to incorporate, product evaluations, purchase considerations, personnel review, etc.

**Logic Gem****Sterling Castle**

303-014

149

139

Decision table based logic processor and program code generator for C, BASIC, Pascal, FORTRAN, COBOL and dBASE programmers. Eliminates coding errors to lower debugging time. Documents logic to assure good communications between designer and coder.

## CODE GENERATORS

Tools for generating source code from a user's specifications. Often used for generating database applications.

See also *CASE Tools; Diagrammers and Documentors; Database Management Systems; Dbase.*

**Zachary****API**

2078-001

495

299

Clipper code generator. Exploding screens, up to 8 menu levels, switch between indices, attach any number of subsidiary files to active file, report generator. Error checking, on-screen help, scroll through files or enter key value. No template language.

**Artful Two****Artful Application**

1413-003

300

289

Dictionary driven, multitable data management engine toolkit for Clipper. Includes function library of over 450 modules for query routines, relational find, user-customizable browse windows, array management, DOS interface, string management, verification of indexes, date and time processing and more.

**Genifer****Bytel**

670-003

395

289

dBASE III applications generator produces data entry screens, reports, menus, maintains data dictionary for databases, fields and layout file. Prototype quickly, then develop finished applications with consistent user interface. dBASE III Plus support.

*Supports dBASE and dBASE clones.*

**R&R Code Generator****Concentric Data**

308-008

149

129

Generate dBASE report programs automatically from R&R Reportwriter reports. Supports multifile relations, free-form page layout, word-wrapped text, complex calculations, totals/subtotals, sorting/grouping, form letter data merge, complex queries, user defined functions, print attributes.

*Requires R&R Report Writer.*

**STAGE****IS Technology**

3032-001

395

379

Dbase code generator. Object-oriented screen design, prototyping, application simulation. Includes template language compiler with pre-compiled library support, text file I/O, 2048 UDFs, 60 field attributes, array functions, and MAKE and MAKEFILE generator.

## SMART TEMPLATES Compiled

## Management FactWare

2709-007

249

235

Fully programmable, second generation template set for UI2 Programmer and Touch & Go. Full-featured database applications; multifile relational, multi-user capabilities; window management; multiple child records on parent form. Object-oriented screen object library, menus, memo windows, forms, browse tables, more.

*Specify UI2, Touch & Go; Clipper, Fox, or Quicksilver.*

**ObjectCraft****ObjectCraft**

2034-001

399

379

Converts object-oriented program diagrams into commented, ready-to-compile source code in C++ or Turbo Pascal. Create objects, establish connections between objects, associate Dbase database information with objects, and more.

**Layout****Objects**

3324-001

300

239

Menu driven program generator. Generates code in BASIC, C, or Turbo Pascal. Creates windows, menus, icons, and graphics. Includes paint, help maker and desktop; new PatchWorks utility for updating.

**PRO-C with Workbench****Pro C Corp.**

1243-002

795

735

Menu-driven C code database applications generator. Features data definition, screen, menu, report generator, and multifile batch update modules. On-line help. Supports most popular databases. Runs under MS-DOS, QNX, XENIX and UNIX. Includes library source code.

**UI2 Developer's Release****WallSoft Systems**

212-008

595

449

Dbase screen design tool consists of screen painter, and code generator. Features complete screen control, reports, object-oriented template language w/compiler, relation handling, language independence, more. Also comes with 25 sample templates.

*Supports all dBASE dialects and C.*

**UI2 Touch & Go****WallSoft Systems**

212-011

395

199

Dbase application design tool consists of screen painter and code generator. Features complete screen control, reports, relation handling, language independence, more. Templates provided for almost any application. Supports dBASE III+, dBASE IV, Foxbase, FoxPro, Clipper, Quicksilver, DBXL.

**CASE/C-GEN****WorldWide Software**

1298-007

2,000

1,850

A 4/GL application generator producing standardized, accessible, efficient and truly portable C source code for UNIX and VMS environments.

## COPY PROTECTION

Combination of software and hardware tools used provide copy protection or execution protection for applications. Used to prevent software piracy. Techniques include encryption, serialization, and use of hardware plugs.

See also *Security Hardware and Security and Virus Protection.*

**CodeSafe-File Option****EliaShim Microcomputers**

1799-026

150

139

Data file copy protection. Also protects updates and any add-on products to original system. Encrypts supplemental data files, graphics, fonts, utilities, or templates so they run only with original software; copies run by others are unusable. Includes master and 10 Protection disks.

**CodeSafe-HD****EliaShim Microcomputers**

1799-020

150

139

Disk-based copy protection. Surrounds original code with undebuggable shell; original code is fully encrypted. Diskettes are uniquely formatted and serialized. Hard disk installation also available. Includes master disk and 10 Protection disks.

**Codetrack****EliaShim Microcomputers**

1799-029

250

239

Copy deterrence system. Rather than copy protecting, it encodes program with original user's name and address upon installation or initial execution. Any copies made display original user's name and address in large letters when program starts, thus deterring unauthorized copying.

**DemoSafe****EliaShim Microcomputers**

1799-027

150

139

Protects demo versions of software by limiting number of executions. After preset number of executions is completed, program is automatically locked. Only a unique password from developer releases program from preset limitations. Includes master and 10 Protection disks.

**Memo Plug Starter Kit****EliaShim Microcomputers**

1799-028

150

139

Has nonvolatile 8K read/write memory incorporating double key encryption. Store data, set and change passwords, limit executions, determine accessibility and more. Reusable and can store number of codes, enabling single plug to protect several software applications.

**MEMOplug Plugs and Master****EliaShim Microcomputers**

1799-013

500

449

CodeSafe key device protection with read/write memory. Includes master diskette and 10 plugs.



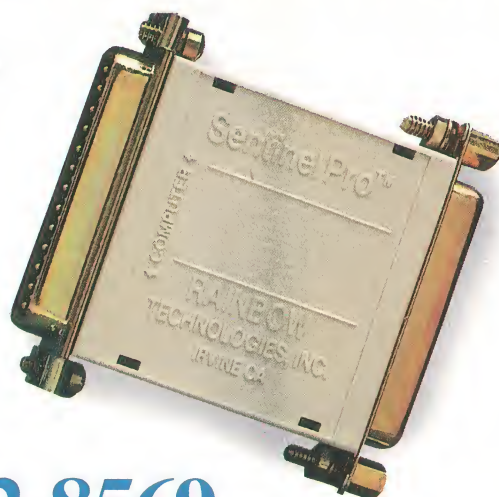


SOFTWARE DEVELOPERS

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**MEMOplug Plugs Extra**  
**EliaShim Microcomputers**

1799-014

400 379

Set of 10 plugs for MEMOplug copy protection system.  
Requires MEMOplug Master diskette.

**Hardlock Kit****Glenco Engineering**

2994-001

377 359

Master disk set and five parallel port Hardlocks which supports most languages. Includes CP board to permit programming of: 30 different company numbers, 40,000 unique algorithms. Software includes: programmer's and non-programmer's interface, usage templates, demos, routines and application notes.

**Hardlock with Memory Kit****Glenco Engineering**

2994-002

420 399

All features of Hardlock. Additionally includes 128 bytes of memory. 96 bytes are field read-only while 32 bytes may be modified in the field.

**SentinelScout****Rainbow Technologies**

1313-001

295 265

A hardware key that attaches to the parallel port of a PC, enabling execution of authorized copies of a program. Does not interfere with printer execution, hard disk installations, or backup copies.

**Irilock-F/100 protections****Techmar Corp.**

2967-003

350 329

Produces a protected version of a program or file on a diskette. Any attempt to run an unauthorized copy will hang the computer. Allows the making of predetermined number of protected diskettes using an internal counter. Must insert floppy diskette every time the program is to be executed. Allows 100 distributions.

**CROSS DEVELOPMENT AND EMBEDDED SYSTEMS**

Tools other than assemblers and compilers for developing code to run on other machine types, including locators, emulators and simulators.  
See also *Cross Assemblers and Compilers; Linkers and Librarians; Operating System Enhancements; Disassemblers.*

**BIOS****AT BiosKit****Annabooks**

1305-001

199 199

C source code to a complete AT BIOS, with a companion book of documentation. Allows modification of system startup code, add security features, etc.  
Version available for XT Bios.

**XT Bioskit****Annabooks**

1305-002

99 99

C source code to a complete XT BIOS, with a companion book of documentation. Allows modification of system startup code, add security features, etc.

**DEBUGGERS****AVSIM****Avocet**

325-017

495 479

Simulator/debugger for Avocet cross assemblers. Test target microprocessor code on a PC. Interactive prompts and menus. On-screen help.  
Specify target processor.

**KERNELS****smx Dev Kit W/Source****Micro Digital**

1737-003

2,995 2,800

Easy to use, real-time multitasking kernel features 8K to 25K code size, support for all memory models, built-in error detection, and ROMability. Protosystem, PCdemo and DOSdemo provide quick start and good examples. No royalties. Option 0 for 8086/88. Option 1 for 186 thru 386. Specify MSC, TC, BC++ or ZTC++.  
Requires Microsoft C or Turbo C.

**smx Developer's Kit****Micro Digital**

1737-003

1,995 1,776

Easy to use, real-time multitasking kernel features 8K to 25K code size, support for all memory models, built-in error detection, and ROMability. Protosystem, PCdemo and DOSdemo provide quick start and good examples. No royalties. Option 0 for 8086/88. Option 1 for 186 thru 386. Specify MSC, TC, BC++ or ZTC++.  
Requires Microsoft C or Turbo C.

**LINK/LIBRARIANS****Paradigm LOCATE****Paradigm Systems**

1194-012

395 369

Locate utility that fully supports both Turbo C++ and MS C for embedded system applications. Choice of Turbo Debugger or in-circuit emulator for debugging embedded systems. Complete with startup code, run-time library and floating point support plus ready-to-build working examples.

**Link & Locate ++****Systems & Software**

210-004

395 295

Firmware development for 8086/88/186/188/286. Supports MS C and MASM object file, MS C floating point emulator, alternate math and 8087 libraries; incremental linker with symbol type checking that accepts Intel cont'd.

OMF object files; full control in segment placement; converts CodeView to OMF format; much more.  
MS C 6.0 compatible; includes C6toPROM.

**DEBUGGERS**

Software to assist in locating and eliminating errors in programs by allowing you to stop a program at any point and examine the status of the computer. Object-level debuggers do this numerically; source-level debuggers allow you to trace through source code and look at variables symbolically.  
See also *Disassemblers; Diagrammers and Documenters.*

**Turbo Debugger & Tools****Borland**

777-087

150 119

Includes Turbo Debugger 2.0 with reverse execution, 286 protected mode, keystroke record/playback, mouse support. Turbo Profiler 1.0 shows how code and files are used, how calls are made. Turbo Assembler 2.0 100% MASM compatible. Multipass assembler generating optimized code.

**dbug****HJS Research**

937-001

195 179

Source-level Dbase debugger. Features include breakpoints, watchpoints, tracepoints; examine and change values of variables.  
Supports dBASE, FoxBASE, and Clipper.

**32 Bit Source Level Debug****MetaWare**

89-041

295 285

32bit source level debugger for Metaware High C versions 1.7 and 2.3 for extended DOS. Features dual monitors for graphics debugging, remote debugging via serial port, 80387 support, and more. Evaluate C expressions from command line, macro language uses command files with key recording.

**MultiScope DOS Debugger****MultiScope**

2657-002

179 149

DOS debugger. Run time/post-mortem debuggers trace program execution/examine state after crash. Browse program source, procedures, data in 14 window types; view data graphically. Full conditional breakpoints; remote debugging; dual monitor; 386/486 watchpoints. EMS or 386/486 driver to minimize size.  
Supports MS C 5.1/6.0, Pascal, MASM, Logitech, Mod-2. Runs under Windows 3.0 but debugs only DOS applications

**80386 Flex Cable Kit****Periscope Company**

35-028

400 379

Flex cable kit for motherboards which cannot accomodate Periscope 386 Pod. For use with Periscope IV.

**Periscope I 0K****Periscope Company**

35-021

495 459

Hardware and software debugger. Crash recovery via break-out switch, software trace buffer, support for 80386 debug registers. Supports single and dual monitor systems. Supports Borland Tlink, IBM/Microsoft's Link, Microsoft's Windows Link4, Sage's Plink, Pocketsoft's .RTLink, and DRI's Link86. Version avail. with 512K.  
Requires 32K address space in high-DOS memory.

**Periscope I 512K****Periscope Company**

35-022

595 529

512K version of Periscope I.

**Periscope II w/Switch****Periscope Company**

35-030

225 189

Same as Periscope II debugger but also includes a break-out switch. Switch fits into any slot that contains an existing board.

**Periscope II-X****Periscope Company**

35-031

195 169

Source level debugger. Uses logical extension of DEBUG/SYMDEB commands. Local symbol support for Microsoft C. Supports CodeView link option for all Microsoft languages. Supports Borland's TLink, Sage's Plink, and DRI's LINK86.

**Periscope IV 386 Pod****Periscope Company**

35-035

700 639

Pod for Periscope IV 5.0. Pod fits between CPU socket and CPU.  
Different revisions available for various motherboards.

**Periscope IV 486 Pod****Periscope Company**

35-035

700 639

Pod for Periscope IV 5.0. Pod fits between CPU socket and CPU.  
Different revisions available for various motherboards.

**Periscope IV/16MHz 2K****Periscope Company**

35-032

1,195 1,075

Hardware debugger for ISA type machines. Debug using two VGA monitors. Support for debugging child processes, optional CodeView and Turbo Debugger function key emulation. Captures execution history in 2K CPU-event trace buffer. .RTLink overlay support. Supports PLink, Windows in real mode, and TLink.  
Requires a CPU-specific Pod.

**Periscope IV/25MHz 2K****Periscope Company**

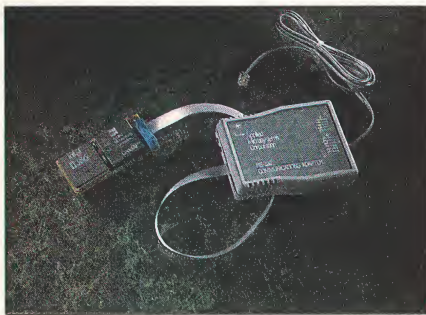
35-010

1,395 1,249

Periscope for 286 or 386 up to 25 MHz.  
Requires a CPU-specific Pod.



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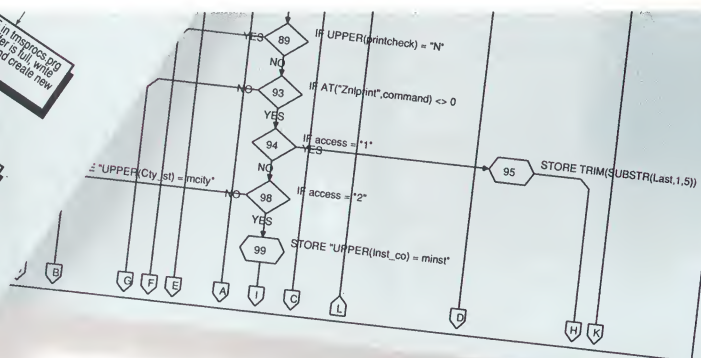
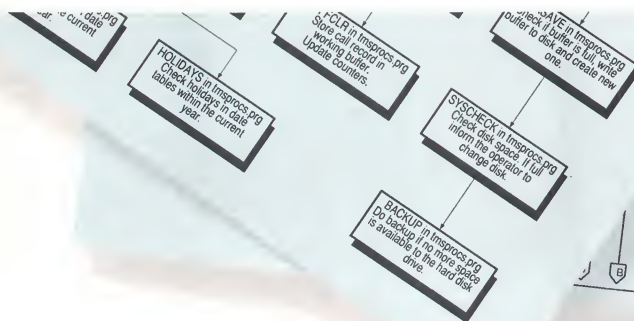
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Same outstanding functionality as CLEAR for dBASE, with support for virtually all C compilers. Save time, automatically create impressive documentation.

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**Periscope IV/33MHz 16K**

Periscope Company 35-046  
Periscope for 286 or 386 up to 33 MHz. Has 16K CPU-event trace buffer.  
*Requires a CPU-specific Pod.*

**Periscope Plus Board 0K**

Periscope Company 35-016  
Full length write-protected memory board for use with Periscope IV hardware debugger. Stores all debugging information outside of conventional memory. Shipped without memory chips, end user must populate board.  
*Available populated with 512K.*

**Periscope/EM**

Periscope Company 35-050  
Software only debugger that has ability to use extended memory when running in a 80386/486 system with 386MAX or BlueMAX. Does not use any memory in lower 640K. Features include write-protected debugger, use of 32bit memory, and more.  
*Requires 80386/486 and Qualitas 386MAX or BlueMAX.*

**DIAGRAMMERS AND DOCUMENTORS**

Utilities for creating flowcharts and other diagrams of source code, such as block and tree diagrams; and for creating cross-reference indexes, comment libraries, difference listings, and other documentation.

*See also Profilers; Disassemblers; Translators.*

**dAnalyst Gold**

Buzzwords International 966-057  
Creates complete Windows based relational database applications with all data entry screens and popup dialog boxes. SQL Client/Server Windows database applications for Netware 3.11 using Novell Btrieve & XQL. Windows applications can be generated for all supporting DBMS engines. SDK knowledge not required.

**allClear**

Clear Software 873-008  
Create presentation quality flowcharts, procedure diagrams, decision trees, and organization charts from plain English descriptions. Multipage diagrams, definable symbols, text centering, more. Import from any word processor or Lotus worksheet. Output to printer, postscript, and publishing applications.

**CLEAR+ for C**

Clear Software 873-007  
Aids in documenting code by automatically drawing program flow charts, multi-level tree charts, formatted source listings, function cross references, and function prototype files. Analyzes program logic and reports logical inconsistencies and syntactical errors.

**CLEAR+ for Dbase**

Clear Software 873-006  
Aids in documenting code by automatically drawing program flow charts, multi-level tree charts, formatted source listings, function cross references, and function prototype files. Analyzes program logic and reports logical inconsistencies and syntactical errors. Supports all Dbase dialects.

**FOR STRUCT**

Cobalt Blue 790-005  
Convert unstructured FORTRAN IV and FORTRAN 77 to structured code. Three levels of structured output: standard FORTRAN 77, FORTRAN 77 with VAX extensions, and VAX FORTRAN with FORTRAN 8x extensions. All options compatible with FOR\_C and FOR\_C++.

**EasyFlow**

HavenTree Software 57-002  
Create and maintain flow charts, organization charts, and data flow diagrams. Includes line route generation, text centering in shapes, text placement along lines, and more. Output to printers, plotters, and desktop publishing programs. Any size chart up to available memory, including LIM expanded.

**Codan**

Implements 1621-001  
Builds database of information on large C programs. Shows relationship between functions, variables, structures, fields, macros, files. Customizable reports, automatically generates system documentation.

**C Programmer's Toolbox Vol. I**

MMC AD Systems 1102-004  
Includes 12 tools. CPrint reformats and beautifies C source code into user selected format; CFlow determines C program function hierarchy/flow and identifies runtime libraries used; PMon non-invasively monitors/profiles program execution including functions, system calls and BIOS interrupts; more.

**C Programmer's Toolbox Vol. III**

MMC AD Systems 1102-005  
12 more tools including: ANSI C preprocessor, declaration statement translator/composer, file compressor/decompressor, file/directory archiver, UNIX file/directory symbolic link manager for DOS, memory usage analyzer, file script executor, C sensitive string locator and more.

**C Programmer's Toolbox/PC**

MMC AD Systems 1102-008  
Combines volumes 1 and 2 of the C Programmer's Toolbox.

**Flow Charting III**

Patton & Patton 1923-007  
Create, update, and print presentation quality flowcharts. Multiple chart styles including Portrait, Landscape, Canvas. Modify or use 35 shapes and symbols provided, in over 200 sizes. High quality output for laserjet and 24-pin printers. Zoom/shrink option. Visible shape option makes aligning easier than before.

**Source Print**

Powerline Software 1024-001  
Documentation utility creates cross reference listings, structured, outline and formatted code listings. Supports C, Pascal, Dbase, FORTRAN, BASIC, and Modula-2.

**Tree Diagrammer**

Powerline Software 1024-002  
Reads source file and creates tree chart showing function call hierarchy. Menu or command line operation.

**AsmFlow Professional**

Quantasm Software 1200-009  
Generates flow charts and call tree diagrams from assembler source files. Recursion detection, stack size determination, CPU timing and register analysis, flags questionable code, procedural cross reference. New features include macro expansion, conditional assembly, 486 support, enhanced printing, larger tree diagrams.  
*Supports Turbo Assembler, MS MASM, OPTASM.*

**ABC Flowcharter**

RoyKore Software 887-003  
Flowcharting for Windows with 30 standard symbols, 60 arrowhead styles and sizes, and wide variety of colors, patterns, line widths, and text styles. Clicking on shape can be used to bring up another chart or note. Includes text searching, reporting, and password protection.

**C-Call**

Software Blacksmiths 1285-005  
C and C++ program documentor: C-CALL is part of C-DOC tools. Creates a graphics "tree-diagram" of the function caller/called hierarchy; function caller/called cross-reference; and files-versus-function table of contents.

**C-CMT**

Software Blacksmiths 1285-007  
C and C++ program documentor: C-CMT is part of the C-DOC tools. Creates a "comment-block" and inserts it in front of every individual function, showing the caller/called functions and identifiers used by that function. Can be run anytime to update comment blocks.

**C-DOC**

Software Blacksmiths 1285-001  
C and C++ program analyzer and documenter. Includes caller/called hierarchy tree diagrams, file vs. module table of contents, detailed cross-reference of identifiers; reformatter, lister and logic action diagrams; Path complexity and lines of code/statements/ comments for each function. Includes OS/2 version.

**C-List**

Software Blacksmiths 1285-009  
C and C++ program documentor: C-LIST is part of C-DOC tools. Reformats source programs into standard formats; optionally numbers lines and pages; produces graphic "action-diagrams" on the listing to outline the logic/control structure within functions.

**C-METRIC**

Software Blacksmiths 1285-013  
C and C++ program documentor: C-METRIC is part of the C-DOC tools. Calculates the path "cyclomatic" complexity for functions, and counts lines with comments, code, and 'C' statements, and total lines.

**C-Ref**

Software Blacksmiths 1285-003  
C and C++ program documentor: C-REF is part of the C-DOC tools. Creates a summary or detailed cross-reference of local, global, and define identifiers. Creates a class-hierarchy tree-diagram for C++ classes.

**Symmetry IV**

Symmetry Software 1447-001  
Complete documentation tool for Dbase dialects. Unique Data Dictionary can store descriptions in predefined lines or up to a 64K memo for each field. Documentor for printing and reports. Supports dBASE II, III, IV, Clipper, and FoxBASE.

**Turbo Analyst**

TurboPower Software 167-023  
Integrated environment of analytical programming tools. Includes program structure analyzer, execution profiler, program lister, Pascal formatter, binary file utilities. Source code included.  
*Supports Turbo Pascal 4.0, 5.0, 5.5.*

**ASM Checker**

V Communications 924-023  
Automatically identifies and locates potential bugs in assembly source code.



# No Source? No Problem.

Automatic BIOS, PSP,  
and MS-DOS  
interrupt labeling  
built-in

Batch and Interactive  
modes

Interactively locates  
code/data boundaries

```

0002a0 00 8b c6 b1 04 d3 e0 48 36 a3 3c 00 03 f7 89 36 ....H 6.<...6
0002b0 02 00 8c 01 16 07 00 00 00 00 00 00 00 00 00 .J.! 6...
0002c0 01 16 07 00 00 00 00 00 00 00 00 00 00 00 00 .0.+ 3...
0002d0 16 1f e8 00 00 00 00 00 00 00 00 00 00 00 00 ....3...
0002e0 36 02 02 00 00 00 00 00 00 00 00 00 00 00 00 .6...".P.
0002f0 97 03 b8 00 00 00 00 00 00 00 00 00 00 00 00 ....P...
000300 55 8b ec 00 00 00 00 00 00 00 00 00 00 00 00 ....P...
000310 8b e5 5c 00 00 00 00 00 00 00 00 00 00 00 00 ..WV...V
000320 e8 7e 00 00 00 00 00 00 00 00 00 00 00 00 ..F.P.v.V
000330 e8 79 04 00 00 00 00 00 00 00 00 00 00 00 00 .F.VW....
000340 04 8b 4e 00 00 00 00 00 00 00 00 00 00 00 00 .].U....
000350 b4 2a cd 00 00 00 00 00 00 00 00 00 00 00 00 .N...!2..
000360 c6 50 8a 00 00 00 00 00 00 00 00 00 00 00 00 .P.P.*.!.X
000370 74 09 3c 00 00 00 00 00 00 00 00 00 00 00 00 .N.2...P
000380 8a c6 50 00 00 00 00 00 00 00 00 00 00 00 00 .P...P...
000390 7e 04 00 00 00 00 00 00 00 00 00 00 00 00 00 .W...].
0003a0 c3 55 8b 00 00 00 00 00 00 00 00 00 00 00 00 .v...$.
0003b0 00 75 39 f6 44 06 0c 75 33 8a 44 07 98 8b c8 d1 .u9.D.u 3.D....
0003c0 e0 03 c1 d1 e0 8b f8 f6 85 32 01 01 75 1e c7 44 ....2..u..D

```

8086 to 80486  
instruction sets  
supported

Interactive cross-  
referencing

Creates listing on  
after disassembly  
perfect

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Speed of disassembly (bytes/sec)	<b>822</b>	120	823
Accuracy (code/data separation*)	<b>99.9%</b>	99.9%	91.8%
Unlimited file size	<b>YES</b>	NO	NO
BIOS labeling	<b>YES</b>	XTRA \$\$	NO
BIOS/PSP file labeling	<b>YES</b>	NO	NO
Unpacks EXE files	<b>YES</b>	XTRA \$\$	NO
Patcher	<b>YES</b>	NO	NO
Batch mode	<b>YES</b>	YES	NO
Interactive mode	<b>YES</b>	NO	NO
Time it takes to customize a label	<b>5 sec.</b>	2-5 min.	can't
Time it takes to change data to code	<b>5 sec.</b>	2-5 min.	can't
*based on a 9040 byte EXE file picked at random			

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code. Also cross-references and type-checks external and public symbols. reports all unused symbols and type mismatches.

**ASMtool 486****V Communications**

924-004

199

189

Assembly flowcharts and source code analysis for 8088/87/386/387/486/487 code. Tree diagrams, stack sizing, register analysis, CPU timing analysis, instruction frequency histograms, recursive code indication, questionable code flagging, procedure cross reference, context sensitive help.

**C Clearly****V Communications**

924-011

129

119

Context sensitive analysis formats C programs into a user's specified style. Modifiable style templates for several common styles like K & R included. Generates listings with functions/comments highlighted, with options for line numbers, headers/footers, flow lines.

**The Documentor****WallSoft Systems**

212-004

295

229

Generates documentation for Dbase code. Creates block diagrams, tree diagrams, enhanced field listings, field and variable cross reference tables, table of contents.

*Supports dBASE, FoxBASE, Clipper, dBase, Quicksilver.*

**C++ Rider****Western Wares**

174-002

89

85

Pop-up source browsing for any text editor with source code analysis for C++. Recalls all class, struct, union, enum, macro, function, and variable definitions. Generates QuickHelp databases for applications, function prototypes, and documentation listings.

*Available for DOS and OS/2.*

**CC-Rider****Western Wares**

174-001

89

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Pop-up symbol cross referencing and C language source analyzer. Compatible with any text editor or MS-DOS application running in text mode.

*Specify C compiler.*

**CC-Rider Professional****Western Wares**

174-004

279

269

Includes all standards features of CC-Rider and C++ Rider and detailed symbol cross-referencing features. Supports C and C++.

**DISASSEMBLERS AND CODE RECOVERY**

Generate assembly/source code from binary code in .EXE and .COM files. Used for debugging and modification.

*See also Diagrammers and Documentors; Assemblers.*

**Dis/Doc Professional****R.J. Swantek & Associates**

1065-004

249

229

Disassembles .EXE, .COM, .BIN, .SYS, and .PGM files and ROM or RAM memory with interactive ability to change code, data, or comments on line. Disassembles 8086 to 80486 with no file size restrictions. Utility for unpacking packed files and BIO's Admission for disassembling and labeling BIOSs are included.

**Soft-X-plore****R.J. Swantek & Associates**

1065-001

99

95

Batch disassembles all file types up to 500K, fast (2 min/file), complete 8086/87 to 80386/387, seven passes. 20+ algorithms to separate code from data.

**Sourcer 486****V Communications**

924-016

129

119

Generates commented assembly source code from .COM, .EXE, device drivers, RAM/ROM directly suitable for reassembly. Supports 8088/87 to 386/87 and 486. Comments BIOS, DOS interrupts, I/O port functions. Links data across multiple segments. Data type identification. Labels BIOS data references, more.

**Sourcer w/BIOS Pre-Proc.****V Communications**

924-018

169

149

Includes Sourcer 486 commenting disassembler and generates detailed commented listings for all BIOS ROMs in system. Explains BIOS functions, register usage, and other key information. Labels BIOS data and interrupt entry points descriptively for easier understanding.

**Unpacker****V Communications**

924-003

39

40

Assists with debugging and program analysis. Unpacks .EXE files and separates attached overlays. Converts multi-segment .COM files into .EXE files. Includes interrupt viewer and video test program.

**DBMS TOOLS**

Standalone tools for the manipulation and processing of DBMS files. These are not DBMSs; rather, they provide additional functions or faster versions of existing functions.

*See also Database Management Systems; Dbase; SQL; Data File Querying; Data File Reporting; CASE and Code Generators; Query Utilities.*

**Bedit****Information Arch.**

2100-001

75

69

View, update, and manipulate Btrieve files. Create test files from existing data. Selectively export SDF to 1-2-3 and dBASE. Recover corrupted files.

**Lexical Resolution****Software Developer Haus**

3921-001

249

239

Provides menu driven environment for documenting a variety of database management systems. From source code, create complete technical systems document including a table of contents and index. Additional features include Clipper standard class and preprocessor directive recognition.

*Supports all xBASE dialects and embedded SQL.*

**EDITORS**

Create and modify text files. Editors are designed for preparing program source files, so they do not have special document preparation features that word processors have, such as boldface and footnotes.

*See Word Processors; Desktop Publishing and Text Formatting.*

**Multi Edit****American Cybernetics**

1067-001

99

95

Dynamically reconfigurable text editor; macro language; window edit up to 100 files (unlimited size); SAA or "Classic" interface style; EMS support; keystroke macros; mouse support; compile in editor; DOS shell; context-sensitive help; cross-directory search/replace; built-in support (most languages); undo/redo.

**Multi Edit Professional****American Cybernetics**

1067-002

179

169

Extended version with integrated communication module; enhanced document formatter; spellchecker with 80,000+ word main dictionary and two user dictionaries; source code to all editor interface and function macros (windowing, search/replace, etc.); macro debugger; support for TLIB, PVCS, and MKS RCS version control.

**Professional Editor****Buzzwords International**

966-022

95

92

Menu-driven editor; can use same keystrokes as Wordstar or SideKick. Configure for Dbase or C or use as regular text editor. Compile from within editor; multi-windows supporting multiple open files and users; match pair searches; macros; split-screen with zoom; cut/paste between windows. Desktop publishing.

*Supports OS/2, DesqVIEW, Windows, Unix, XENIX, VMS, Sun.*

**SPF/PC****Command Technology**

301-001

245

195

Functionally equivalent to text editing capabilities of ISPF/PDF on IBM mainframes. Features true split screen; directory/member lists; on line, context-sensitive HELP; command stacking; 43-line EGA/50-line VGA support; hex and binary editing. German edition available.

**VEDIT****GreenView**

25-013

69

69

Features: with multi-file editing, binary file support, search/replace with regular expressions, integrated support of popular compilers/assemblers with automatic error tracking, pull-down menus, DOS shell, mouse support, undo, more.

**VEDIT+****GreenView**

25-007

185

159

Programmer's editor with integrated support for compilers, assemblers, linkers, debuggers, and Make programs. Swaps out TSRs and network drivers during compilation. All features of VEDIT plus macro language to automate repetitive editing tasks, create custom editing functions.

**Professional Editor****Intersolv**

111-060

295

249

User configurable editor with switchable features, including clean screen, tiled windows, overlapping windows in various colors, pull-down menus, rulers, scroll bars, and line numbers. C-like extension language; compiler/debugger. Files up to 100M; emulates Vi, Brief, WordStar, Epsilon, EMACS, more.

*Available for OS/2.*

**Professional Editor****Intersolv**

111-060

450

395

Support for both DOS and OS/2.

**Epsilon****Lugaru Software**

306-009

195

109

EMACS-like programmable editor. Run other programs or any compiler concurrently while editing. Edit several files at a time. Full undo/redo feature.

**KEDIT****Mansfield Software**

298-003

150

139

IBM VM/CMS XEDIT compatible editor with PC-based editor features and macros. Includes subset of REXX; full REXX support when combined with Personal REXX product.

**Slick Editor****Micro Edge**

1101-001

195

189

Program editor including undo/redo, multiple windows, multiple files up to 200M, EMS support. Compatible with Mac, UNIX, DOS, and ASCII files. Multiple clipboards, compiler error message processing, procedure tagging, typeless REXX-style macro language, programmable file manager, command retrieval, DOS and OS/2 support, more.



**SOURCER™ 486**Commenting  
Disassembler!■ **SEE HOW PROGRAMS WORK**

SOURCER™ creates detailed commented source code and listings from memory and executable files directly suitable for reassembly. Built in data analyzer and simulator resolves data across multiple segments and provides detailed comments on interrupts and subfunctions, I/O ports and much more. Includes a definition file facility to include your own remarks and descriptive labels, force data types, and more. Complete support for 8088 through 80486, 8087 to 80387, and V20/V30 instruction sets.

We welcome comparisons with any other product, because no product comes close to the ease of use and output clarity of SOURCER.

"Sourcer is the best disassembler we've ever seen." PC Magazine 1/17/89.

**BIOS SOURCE**for PS/2, AT, XT  
PC and Clones■ **CLARIFY BIOS INTERFACES**

The BIOS Pre-Processor™ with SOURCER provides the first means to obtain accurate legal source listings for any BIOS! Identifies entry points with full explanations. Resolves PS/2's multiple jumps for improved clarity. Provides highly descriptive labels such as "video.mode" and much more. Fully automatic.

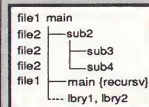
Sourcer 486-Commenting Disassembler V3	\$129.95
BIOS Pre-Processor-BIOS source listing generator	49.95
Unpacker-Unpacks packed EXE files and more	39.95
View-It™-High speed zoomable file viewer	69.95
Sourcer with BIOS Pre-Processor (save \$10)	169.95



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**C AND C++ DOCUMENTATION****NEW! C-METRIC™ (\$49) COMPLEXITY / QUALITY**

- Calculates "Cyclomatic" path complexity for functions and system
- Calculates lines with Comments, Code, and 'C' Statements

**C-CALL™ (\$59) FUNCTION HIERARCHY**

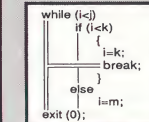
- Tree-Diagram showing function hierarchy
- Table-Of-Contents of functions versus files
- Detailed cross-reference of functions

**C-CMT™ (\$59) FUNCTION COMMENT**

- Generate/Insert function comment blocks
- Re-run anytime to update comment blocks
- Retains any user-generated comments

```

/FF*****
sub2 USERS: main
CALLS: sub3 sub4
PARAM: arg1 arg2
LOCAL: var1
GLOBAL: var2 var3
  
```

**C-LIST™ (\$49) LIST OR REFORMATS**

- Action-Diagrams show logic/control flow
- Reformats to various standardized formats
- Line numbers, page numbers, and titles

**C-REF™ (\$49) CROSS-REFERENCES IDENTIFIERS**

- Summary list of Local/Parameter/Global/Define Identifiers used
- Detailed Cross-Reference of Identifiers vs Function/Line usage
- Produces Class-Hierarchy Tree-Diagram for C++ Classes

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"I have used Brief, Sage Professional, V-Edit Plus, QEdit and Epsilon and Multi-Edit is the best."

Michael L. Wilson, President  
Compufax Computer Systems

"Multi-Edit has all the features of Brief and more, for half the price."

Richard B. Shepard, Ph.D.  
The C Users Journal, August '89

"It's phenomenal! It does everything I want and more!"

Dick Eckhouse, Product Reviews Editor  
COMPUTER Magazine (IEEE)

"Multi-Edit is absolutely the ONLY powerful programmer's editor that I've EVER been able to use right out of the box without consulting the manual."

Dellis Hines, Software Engineer  
DCA/10Net Comm's.

"...superb text editor..."

Tom Swan, PC World,  
July '89

"It does everything! It's easily the best text editor on the market today!"

John Pacheco, Pres.  
Software Doctor

"...speed up your development cycle ...leave your old editor behind."

Jeffrey Bersin, DATA BASED ADVISOR,  
April '91

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**AMERICAN CYBERNETICS**



**MKS Vi****Mortice Kern Systems**

469-007

Fully compatible implementation of UNIX System V.3 full-screen editor for use on DOS or OS/2. File size limited only by available disk space. Complete pattern matching, full macro capability, ctags for cross referencing C programs.

**Q Edit Advanced****Semware**

1353-001

Multi-file, multiwindow reconfigurable editor with pop-down menus, DOS shell, column blocks, sorting, macros, paragraph reformatting, wordwrap. Automatic indentation for "C" programming, matching braces and parentheses. OS/2 version available.

**Q Edit TSR****Semware**

1353-006

Memory-resident editor needing only 9K DOS memory. Pop-up from within other programs and swaps current application into expanded/extended memory or disk enabling user to edit files up to 400K in size. Other features include: small size, pop-down menu system, modifiable help screen, DOS shell, sort, macros, more.

**Cheetah****Software Science**

1794-008

Program editor for dBASE, Clipper/Quicksilver, and FoxBASE. Pull-down menus, language help, keyboard macro editor, context-sensitive help, spell checker, justification, compression, change keyboard layout while running, and more.

**BRIEF****Solution Systems**

732-175

Customizable programmer's editor. Features unlimited windows, multi-level undo/redo, C-like macro language with source level debugger, template editing, multiple keystroke macros, built-in support for most popular languages and networks, keyboard configurability, and more. EMS caching and mouse memory support; can edit files over 2 billion lines. MS C 6.0 Advisor support.

**dBRIEF for X-Base or Paradox****Solution Systems**

732-032

BRIEF add-on customizes BRIEF for use with X-Base or Paradox dialects. Add new features, improve existing ones, simplify complex operations, prototype and test programs. View program or table structure, search, replace, or scan without source files in memory. Template editing, smart indenting, access popular utilities from within BRIEF, and more. Specify X-Base or Paradox version.

**dBRIEF for C++****Solution Systems**

732-175

BRIEF add-on customizes BRIEF for Borland C++. Complete, customizable C++ browser for classes, member variables, hierarchies, and functions.

**BRIEF/dBRIEF for C++****Solution Systems**

732-175

Combination of BRIEF editor with dBRIEF for C++.

**BRIEF/dBRIEF for Paradox****Solution Systems**

732-111

Combination of BRIEF editor with dBRIEF for Paradox.

**BRIEF/dBRIEF for X-Base****Solution Systems**

732-032

Combination of BRIEF editor with dBRIEF for X-Base.

**TE Developer's Kit****Sub Systems**

1100-001

Complete C source code. Includes TE text editor with key stroke macros, large file handling, undo, and more. TER small editor routine.

**Norton Editor****Symantec**

1231-019

Unlimited file length, 64K line length, split-screen editing, auto-indent, search and replace, online help, DOS shell, text layout, and more. Customize settings to fit needs. Supports mouse.

**Emacs****UniPress**

168-002

Popular multi-window text editor. Fully customizable, recognizes C syntax. Includes programming language. Runs on numerous machines. Features redo/undo, unlimited line length, search/replace, regular expression matching, and more.

**HELP GUIDES**

On line explanation of languages, utilities, product features, and any other concept. Some products allow the user to design help systems. See also Training; Menuing Systems and Shells.

**UpShot****Autumn Hill Software**

1263-014

On-line help tool to allow developers to construct large scale documentation. Manuals are like true books with table of contents and index. Engine can be installed as a TSR or run from command line. Redistribution of engine requires modest one time license fee. Source available.

**Peabody****Copia Intl.**

1625-028

On-line reference utility with databases for MS-DOS, MS C or MASM, Turbo C or Pascal. Structured menu/keyword topic choice. Runs as 24K TSR in tandem/standalone. Multiple database reference ability; sticky frames; file/memory displays; database compiler/editor. Additional databases available.

Specify MS-DOS, MS C, MS MASM, Turbo C, Turbo Pascal.

**Expert Help Developer Kit #1****SoftSolutions**

876-023

Toolkit for developing Norton Guides compatible Hypertext systems. Create knowledgebases from existing information. Includes Expert Help Search Engine featuring auto-lookup, global searches, hypertext jumps, cut/paste, 60 line support, more. Unlimited distribution (limited to reading 6 knowledgebases). Uses 1K of conventional memory.

**Expert Help Developer Kit #2****SoftSolutions**

876-025

Licensed distribution allows up to 25 Expert Help Engines to be distributed. Engines have NO restrictions on the number of databases that can be read.

**Help On The Side (HOTS)****The Software Factory**

1119-009

Independent, cooperative processing facility that allows help systems to be added to either new or existing PC or mainframe applications, without reprogramming or recompiling. Provides context-sensitive help during an application without having to alter or recompile projects already in development.

**INSTALLERS**

Utilities for creating installation programs for commercial distribution.

**Clarion Software Distribution Kit****Clarion Software**

1005-011

Provides customized install process for distribution of end-user applications. Use to create controlled releases of software onto compressed, multi-volume installation disks. Works with any file type. Distributes any program or application.

**INSTALIT****HPI**

2718-001

Script installer. Handles installation requirements and errors, support for popular networks, diskette production, compression, text/binary file editing, secure electronic distribution, system detection, etc. Dialog boxes, menus, windows. Procedural control flow. Removable copyright. Windows version available.

**INSTALIT Multilingual****HPI**

2718-003

INSTALIT version allowing modification and/or translation of text without source code involvement. Choose desired language when building diskette master set. Translates into other languages. Speaks English, French, German, Italian, Spanish, Portuguese, Norwegian, and others. No royalties or relicensing.

**INSTALIT with C source****HPI**

2718-012

For DOS, OS/2, and Family API. Includes INSTALIT, MEDIABUILDER. Supports MS and Turbo C. No royalties or relicensing.

**Distribution Disk Builder****Knowledge Dynamics**

1721-008

Full point-and-shoot interface to build distribution disk sets automatically. Save configuration file to remember files marked for distribution. Automatically format disks, build script files, compress files, split large files across multiple diskettes.

**Install****Knowledge Dynamics**

1721-002

Script-driven product installer. Supports different fixed and floppy disk configurations, multiple target disks/subdirectories, on-the-fly file creation. Handles all DOS errors. Restrict user to install selected parts of product. Unlimited number of disks/files; unlimited file size. CONFIG.SYS/AUTOEXEC.BAT editor; full source.

**Install International****Knowledge Dynamics**

1721-006

Adds international support for Install. Includes tools needed to translate into any foreign language, including multi-byte languages.

**Install Professional****Knowledge Dynamics**

1721-009

Combination of Knowledge Dynamics's Install and Disk Distribution Builder.

**.RTPatch****Pocket Soft**

1277-013

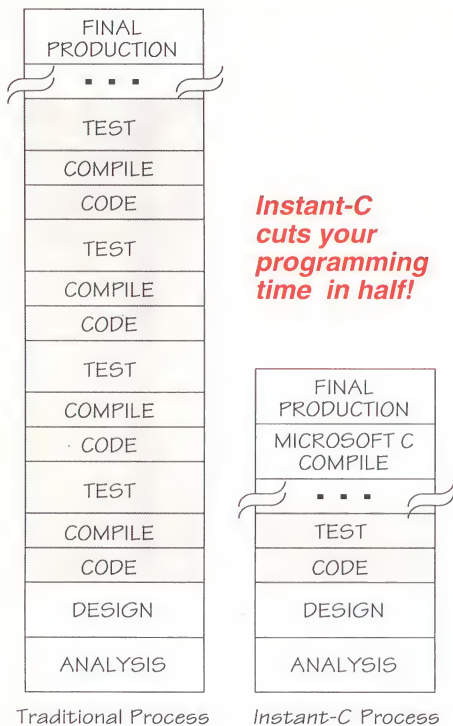
Solution to distributing updated software. Determines the differences between old and new version, then places changes into a patch files. Patch file is shipped to existing site and changes are applied with a single command. Performs checks for proper files before updating. Requires linker.



# Double your C Productivity!

**"A remarkable and utterly addictive speed improvement."**  
— *The C Gazette*

The Instant-C™ development companion to Microsoft® C will cut your programming time in half. After coding, testing and debugging with Instant-C, optimize the final version of your code with Microsoft C. Instant-C saves you time by significantly shortening each coding and testing cycle and by reducing the number of cycles you need.



Traditional Process

Instant-C Process

Instant-C combines ultra-fast incremental compiling, flexible debugging, and compatibility with your current development tools making the perfect development partner for Microsoft C. Instant-C is compatible with libraries from Microsoft, Copia, Faircom, Metagraphics, Novell, Oakland, Raima, Roundhill, Vermont Creative, WNDX and other popular suppliers.

**"Instant-C is fabulous for finding and fixing the sticky bugs."**

— *Richard Kasperski,*  
*The WNDX Corporation*

Instant-C debugging finds bugs that other tools miss. It automatically detects over 500 errors, including runtime problems such as array references out-of-bounds, stack overflow, use of uninitialized pointers, overwriting a return address, read or write through null pointers and overwriting your program or DOS.

**"Superb product! I simply won't code any other way."**

— *Michael Brooks, Enercalc, Inc.*

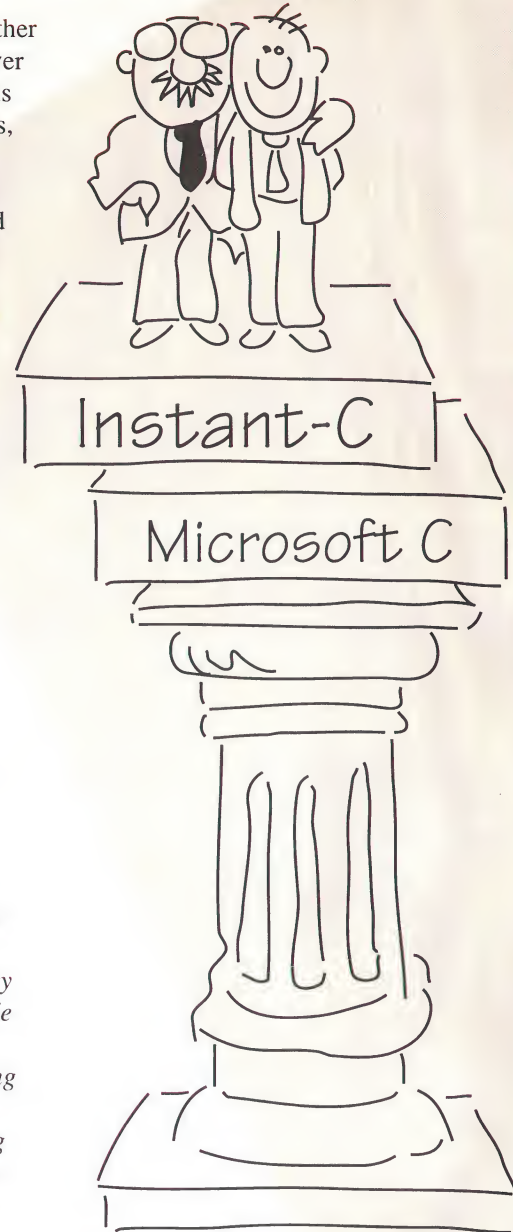
Instant-C is ultra-fast. For example, when you make a change to your program, Instant-C recompiles and relinks just the change. In fact, Instant-C can rebuild a 100,000 line program after a small change in less than two seconds.

**"How did we live without it?"**

— *Duane Burris, Mardian, Inc.*

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- The industry's fastest edit-compile-link-debug cycle
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**EZ-Install****The Software Factory**

1119-001

149

135

Features Installation Aid menu-driven install generator. No scripts. Performs CONFIG/AUTOEXEC modification, hardware checks. Handles errors; installs parts of product. Unlimited disks and files. Full source and compression utility. Includes EZ-PAINT for custom menus and forms. No royalties or copyright.

**Opus Make****Opus Software**

1675-002

129

119

DOS make utility has all features of UNIX version with many extensions. Works with Polytron PVCS and Burton Systems TLIB, LIB and SLR Systems OPTLIB. Includes makefile generator, timestampers for source and object files, an error message redirection utility, and a regular expression tester. DOS Memory Miser runs in 3K. Shipped with OS/2 version.

**LINKERS AND LIBRARIANS**

Overlay, embedded systems and optimized linkers and librarians. See also Assemblers; Cross Development and Embedded Systems.

**ALINK****Accfin Software**

1669-001

195

179

Overlay pre-link processor for Clipper. Allocates procedures to overlay areas and manages overlay procedure pool at link and runtime. Allows use of either Microsoft LINK or PLINK86plus. PLINK86plus commands are supported. Creates demo versions or licensed versions from unmodified source code.

**Blinker****Blink Inc**

2933-004

249

235

Dynamic overlay linker for Clipper. Structures overlays and reduces program memory requirements. Dynamic overlaying of C and ASM profiler for performance analysis, compression of Summer '87 and 5.0 symbol tables, memory defragmentation, "burning in" of Clipper environment variables/serial numbers, creates demos.

**WarpLink****Hyperkinetic**

1809-003

249

229

Microsoft compatible linker with full dynamic overlay capability for Builder, Clarion, Clipper, FORCE, MASM, Microsoft C, QuickBASIC, Turbo C, Turbo Assembler, and any other compiler which produces MS compatible .OBJ files. Error checking, mapping, readable error messages, and tutorials.

**PLink w/LTO****Intersolv**

111-057

495

439

PLink86+ with automatic optimal overlay generation. Overlay Architect analyzes calling relationships to develop overlay structure. User can modify overlays to accommodate interrupt handlers, multitasking, data overlays, more. Supports pointers to functions. User specification of overlay size versus program speed. Available separately without LTO.

**PolyLibrarian****Intersolv**

111-106

249

229

Create/modify/reconstruct/reorganize object module libraries. Supports Microsoft and Intel OMF object modules.

**.RTLink****Pocket Soft**

1277-007

295

279

Fast linker with advanced overlays, optional runtime libraries to eliminate duplication of language and user code in .EXE files. Dependency cross-reference between object and library files.

**.RTLink/Plus****Pocket Soft**

1277-009

495

419

.RTLink with CodeView support for advanced overlays and profiler utility for performance analysis at link time. No source code changes. Profiler comes with source code for read analysis utility to customize statistics reports. Virtual memory linker automatically executes program in available memory.

**OXYGEN****Rational Systems**

127-007

99

95

Allows OS/2 version of MS C run under DOS and use any available extended memory. Helps eliminate out-of-memory errors during compilation. Does not affect source files or the execution of the resulting program. Works under all Windows modes and with all popular memory managers.

Requires a 286+ machine, MSC, and available extended memory.

**MAKE UTILITIES**

Used on large software projects for recompiling only modified files and relinking the system; often used with version control systems.

See also *Ve databases*. These are more specialized routines than those for data file handling, optimized to display and combine information from many records flexibly and e

**PolyMake****Intersolv**

111-087

179

159

Make utility. Recompiles altered source modules and relinks programs. Supports Sage PVCS logfiles.

**MKS Make****Mortice Kern Systems**

469-013

149

129

Automates production and maintenance of any project. Provides UNIX System V.3 Aug-Make and SunOS Make extensions. Allows software building in mixed UNIX, DOS, and OS/2 environment using same make files.

**MKS Software Management Team****Mortice Kern Systems**

469-022

299

259

Combination of MKS Make and MKS RCS.

**PARSERS AND LINTS**

Syntax analysis. Parsers do general grammatical analysis; lints look for probable erroneous conditions such as type inconsistencies or unreachable code.

See also *Text and Unix Tools; Translators; AI and Object-Oriented Libraries; LISP; Prolog*.

**PC-lint 386****Gimpel**

53-015

239

209

Same as PC-Lint but uses extended memory. For use with more than 256 files or more than 50,000 lines of source code. Bound with DOS Extender.

**PC-Lint****Gimpel Software**

53-009

139

115

Analyzes C source code and finds program inconsistencies and bugs. Finds uninitialized and unused variables, locates unusual expressions, more.

**C Programmer's Toolbox/PC****MMC Ad Systems**

1102-003

175

149

Analyze program organization, preprocess and reformat source code, cross reference, lint, text file comparison, file compression/decompression, text extraction from files, and other functions. Works with all popular PC compilers, engineering workstations, and UNIX C compilers.

**PROFILERS AND PERFORMANCE ANALYZERS****Turbo Debugger & Tools****Borland**

777-087

150

119

Includes Turbo Debugger 2.0 with reverse execution, 286 protected mode, keystroke record/playback, mouse support. Turbo Profiler 1.0 shows how code and files are used, how calls are made. Turbo Assembler 2.0 100% MASM compatible. Multipass assembler generating optimized code.

**Performace Tracer****MicroQuill**

5016-007

295

259

In single pass, traces entry point, exit point, and timing data for each instance of every one of functions exercised. Call tree history. Functions by execution time and frequency. For each function, all parents and children with corresponding frequency. No source modifications, functions traced use proprietary chkstk. Available for Windows and OS/2.

**SegMentor****MicroQuill**

5016-001

2,795

2,295

Trace exact function level activity of applications. Algorithms are similar to those for auto-routing printed circuit boards. Explore solutions for optimal segment/section map. Applications are more compact. Minimize inter-segment (disk trashing) calls. Pragma directives for a new map provided in an include file. Available for Windows and OS/2.

**Charge****Solution Systems**

732-167

99

95

Profiler with window-like interface. Single-keystroke accessibility to Brief. See profile as statistics, bar graphs, or time counts. Measure how long each routine takes to execute and how often it's called. Includes on-line help and mouse support. Support for MS C, QuickBASIC, MASM, Turbo C, C++, Turbo Pascal, and TASM.

**PROTOTYPERS AND DEMO BUILDERS**

Used to create prototypes or demos. A prototype is an outline program to show how the interfaces will work on a full system. A demo is a slide show created from an existing program to demonstrate its functioning to potential users; it can also be used for training. See also *Presentation Graphics; Menuing Systems and Shells*.

**Show Partner F/X****Brightbill-Roberts**

1104-002

395

295

Presentation system consisting of screen capture utility, graphics editor, script editor. Includes graphics, object, and font editors. Also includes text paint and graphics conversion routines. Add color, motion, special effects, animation. Script can be distributed royalty-free with presentation program.

**Proteus****Genus Microprogramming**

1265-012

249

229

Create demos, tutorials and prototypes. Supports full screen and overlay images in text, CGA, EGA, VGA, and SVGA resolutions. Add video effects and custom sound. Utilities for image capture, cut, paste, and positions. Use images from most programs. Conditional branching on mouse, key, timeout, field data events. Pulldown menus.

**Instant Replay Professional****Instant Replay**

439-013

595

575

Multimedia presentation package. Execute, memorize, and replay DOS programs. Edit memorized "replays", insert pop-up windows, sound effects, more. Create interactive or automated slide shows and add cont'd.



# 9 Out of 10 Software Developers Rely on PVCS for Configuration Management.



## What Does This Mean to You?

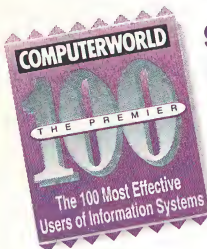
It means you can choose Sage's PVCS with confidence. It means 9,000 companies did the homework and chose PVCS to provide change management for their critical software projects.

They chose PVCS because it adapts to the way their developers work; because it supports multiple platforms; and because it's a complete solution to configuration management.

## The Best LAN Solution

PVCS is architected for networks via distributed file capability, enhanced security, and network filename support. It provides complete control over the configuration of your software and its components whether you work alone; in a group on a LAN; or in heterogeneous networks with multiple operating systems.

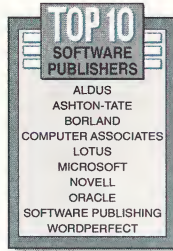
PVCS' heterogeneous network support promotes reusability because portable modules can be developed and maintained on whatever platform makes sense.



97 of Computerworld's Premier 100 companies manage development with PVCS.

*“We use PVCS to track several thousand files among multiple development efforts. This task would be unbelievably onerous without version control and PVCS provides us with a system that has proven extremely robust.”*

Geoff Geis, Senior Specialist, MCI



Nine of the ten top software publishers rely on PVCS to ensure product quality.

*“We depend on PVCS to control all software development at Aldus. Over 100 developers use PVCS to track changes through engineering, beta, QA and production. Without PVCS, building a complex product like PageMaker would be extremely difficult.”*

Steve Dowd, Principal Software Engineer, Aldus Corporation

PVCS Provides:

- Revision Control for the modules that make up your project.
- Version Control to manage changes to your software system. Any revision or version can be recalled at any time.
- Support for any file type.
- Unlimited branching for safe parallel development and alternate or special versions.
- Extensive project and audit reporting capabilities.

## Precise, Conformant Builds

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transition effects like roll up/down, fade. Includes paint program and screen capture that save images to PCC/PCX.

### Demo II Intersolv

111-009

Permits users to prototype concepts. Produce demos and computer-based training. Includes full mouse support for screen creation and menu selection. VGA support, enhanced keyboard support, text overlay on bitmap graphics, autosave option, memory swapping requires 7K on execution of external program. IBM CUA standard.

### Demo II Professional Intersolv

111-114

Same as Demo II with three enhancements: ability to encrypt demos so they cannot be modified by unauthorized users, the removal of Sage sign-on notice from the beginning of the demo, the shrinkage of demo size up to 50%.

### Grasp 4.0

Paul Mace Software

413-014

Desktop animation system with graphics programming language and paint program. Includes editor, effects generators, image capture, screen capture, and more. Support for Soundblaster. Incorporate Autodesk Animator sequences.

*No runtime fees.*

## TESTING SOFTWARE

Tools for creating, executing, and reporting on test suites. Use test suites to evaluate software performance; then use debuggers and other tools to remove bugs and enhance performance.

*See also Debuggers; Profiler and Optimizers; Version Control Systems; Make Utilities.*

### CAPBAK

Software Research

1126-004

Captures and replays key and mouse strokes. Screen capture. Works with all graphics monitors. Key/mouse strokes are saved to an editable text file.

### SMARTS + EXDIFF

Software Research

1126-010

SMARTS with EXDIFF. Automates file evaluation by comparing new screens and output files against previously verified versions. Mask windows, bytes, lines, and patterns from comparison, eliminating error messages.

### Auto Function Tester

Talis Computer Service

2044-001

Tests C functions by creating main() functions that run test cases through them. Does not affect source code, online help. Keep test data in source code, AFT database, or read in at runtime from any type of file.

*Specify Microsoft C or Turbo C.*

### Ghost

Vermont Creative

169-079

Automatic testing tool allows delivery of tested software to end users. Make exact recordings of both software text sequences and screen displays in machine readable form. Re-execution of any set of tests at high speed. Differences can be interactively viewed.

## TEXT TOOLS

Text processing tools that work under DOS. Most are based on Unix utilities. These tools perform such functions as pattern matching, file difference, and text formatting tools.

*See also Parsers and Lints; Unix and XENIX; Editors; Word Processing and Outliners; Desktop Publishing and Text Formatting.*

### SpellCode

Geller Software Labs.

1945-001

Spell checking tool for database and spreadsheet users. Checks spelling of text displayed to users in database programs and spreadsheet structures. Understands program and structure syntax.

### DELTA

OPENetwork

1773-001

File/directory comparison tool similar to Unix diff. Fully scrollable windows, move back and forth between directories and files easily. Editor window allows changes to be made to a file while comparing.

## TRANSLATORS

Tools for translating source code in one language to source code in another, or for converting between file formats.

*See also Parsers and Lints; Diagrammers and Documentors.*

### FOR C w/ Binary runtime

Cobalt Blue

790-003

FORTTRAN to C translator. Supports MILSPEC and common F77 extensions.

### dBx/dBport

Desktop AI

37-012

Portability tool for Dbase. Translates application programs into C source code which can be ported to different machines or run on PC. Compatible with MS C and Turbo C. Supports FoxBASE and Clipper specific functions. File management utility provided. Source for function libraries available.

### Turbo-SC QuickByte

2717-003

Translates Turbo Pascal to QuickByte Pascal. Provides access to 5 pass compiler, Intel/Microsoft object code compatibility, program transportability.

### Turbo to C TGL

815-002

Converts Turbo Pascal programs into C source code compatible with Turbo, MS, and K&R. Handles include files, any nesting level, comments, all data types and operators, intrinsic functions, more. Royalties may apply.

### AB->C

WorldWide Software

1298-007

A software package that enables you to take your Alpha BASIC programs and migrate them with very few or no modifications to generate C source code system statements. The C source is portable across all ANSI C compilers. (OS2/XENIX/UNIX versions available.)

## UNIX EMULATION TOOLS

Software packages that permit emulation of Unix functions under another operating system, such as DOS or OS/2.

*See also Parsers and Lints; Unix and XENIX; Text Tools.*

### MKS AWK

Mortice Kern Systems

469-001

UNIX pattern-matching language for DOS and OS/2, compatible with specifications in "The AWK Programming Language" by Aho, Weinberger, and Kernighan (included). Introduction to C and prototyping tool for larger programs.

### MKS Lex & Yacc

Mortice Kern Systems

469-146

100% UNIX compatible compiler construction tools for DOS or OS/2. Act as program generator that takes descriptive input and writes program module which simplifies creation of languages and development of new programming language compilers by generating fast, compact, highly portable code. Supports Pascal.

### MKS Toolkit

Mortice Kern Systems

469-004

Full implementation of over 150 UNIX utilities. Brings functionality of UNIX System V.3 to DOS or OS/2. Includes KornShell, vi editor, AWK programming language, cpio, crypt, diff, egrep, sort and tar.

*Available for DOS and OS/2.*

## VERSION CONTROL SYSTEMS

Source code librarians. Version control systems allow easy maintenance of multiple versions of a software project simultaneously, tracking the source and date of any changes to source code files.

*See also Make Utilities; Testing Software.*

### TLIB 5.0 Version Control

Burton Systems

403-003

Allows retrieval of previous versions, manual and automatic branching, labels, check in/out locks, keywords, wild-cards, file lists, binary file support, WORM support. Version supporting DOS and OS/2 available.

### PVCS Professional

Intersolv

111-089

Source code revision control system. Logs revisions, allows unlimited branching. Includes security features. Provides storage and retrieval of multiple revisions of text or code. Maintains complete history of changes made to each revision.

*OS/2 version available.*

### MKS RCS

Mortice Kern Systems

469-002

Project management tool with a menu interface allows users to manage change easily by keeping complete history of changes to text or binary files including time/date, who made the changes, etc. Retrieve by date, release number, or by previously assigned name. Handles large, complex projects. Converts SCCS, PVCS to RCS.

### Sourcerer's Apprentice


Solution Systems

732-137

System for managing changes to source code. Track each change made to a file. Document all changes. Recreate source file as it existed at any point in time. Prevent simultaneous updates to same source file. Supports branch/merge. Secure source files on a file server from unauthorized access and updates. Access from Brief.

*Available for OS/2 and Unix. Personal version available.*





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INSTALL 3.0 detects monitors, DOS versions, coprocessors, etc. to create machine-specific installations without asking questions.

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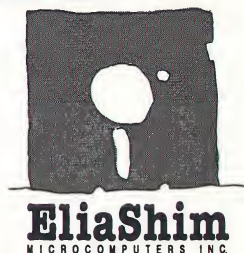
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**Copy II PC****Central Point Software**

328-003

40

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Backs up copy-protected program disks, even from the newer Superlock schemes. High-density support. Also includes other useful disk-related utilities.

**Copy II PC Option Board****Central Point Software**

328-009

159

139

Allows PC to read and write Macintosh data diskettes with one half-slot card. Commands similar to DOS disk commands.  
*Requires 3.5" 1.44M drive.*

**Fastback Plus****Fifth Generation Systems**

47-010

189

159

Can backup to any logical device: tape drives, etc. Data compression, reads/writes simultaneously. PS/2 version available.

**BACK-IT 4****Gazelle Systems**

726-001

169

109

Backup features advanced error correction, memory resident scheduler, speeds up to 10MB per minute, 50 to 75% data compression, mouse support. Menu driven or run from command line. Direct support for tape drives.

**Shadow****Knowledge Dynamics**

1721-003

299

259

Adds integrated backup and restore capabilities to applications. Data compression, CRC file integrity verification, incorporate machine readable documentation into existing product documentation. Command line, TTY, response file, full screen interface. No programming normally needed; full source included. No royalties.

**Norton Backup****Symantec**

1237-014

149

119

Full, incremental, and differential backup with three levels of both data verification and data compression. Point-and-shoot interface allows quick selection of files for backup and restoration. Restore data from damaged disks. Backup to multiple drives if on network.

**CACHE**

Disk caches speed up hard disk and program performance by buffering portions of the hard disk in memory.  
*See also Disk Optimizers and Recovery.*

**Cache86****Aldridge Company**

1131-003

49

45

Disk cache uses write-through for safety. Uses conventional, extended, or expanded memory. For hard disk intensive applications, can improve performance by as much as an order of magnitude. In expanded memory, cache driver uses less than 1K of conventional memory. Contains special 386 configuration.

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Disk caching system for any DOS-compatible mass storage device. Uses many memory types including conventional, extended, expanded, extended with expanded, HMA, and high DOS for up to 23 MB of cache. Has automatic configure, application run-time logging, status screen, help, and disk performance testing utilities.

**PC-KWIK Power Pak****Multisoft**

630-003

130

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Includes Super PC-Kwik, RAM disks, print spoolers, screen accelerator with ReView feature and screen blanking, keyboard accelerator with ReDOS command-line editor.

**Super PC-KWIK****Multisoft**

630-001

80

74

Disk cache utility to improve performance for any PC, XT, 286, 386, 486, or PS/2 running DOS. Uses advanced disk cache technology to improve disk read and write throughput from diskettes, hard drives, and Bernoulli drives. Conventional, expanded, or extended memory. Supports cache sizes to 16 MB.

**DIAGNOSTIC AND MONITORING**

Utilities for diagnosing and monitoring performance of basic hardware and software, such as memory, hard disk, and low-level codes.

*See also Disk Optimization and Recovery; Debuggers; Cross Development and Embedded Systems.*

**System Sleuth****Dariana Technology Group**

1336-008

149

89

Display and investigate all PC system information. Examine lists of installed equipment, I/O port address availability, hard drive setup, ROM locations, disk and memory viewer, interrupt tables/ TSR vectors, more. On line help system. Safe, no accidental changes can be made from the program.

**Align-It****Landmark**

1943-010

249

209

Floppy drive diagnostic, alignment, and cleaning kit for on-site maintenance and repair. For 5.25" and 3.5" disks.

**InfoSpotter****Merrill & Bryan**

1840-002

79

75

Detailed display of conventional, expanded, and extended memory. Timings of memory. Hardware interrupts activity display. IRQ level test. Display system CMOS, video and disk data area. Ability to run as TSR. Disk diagnostics. Network compatible, can display information on workstations.

**Remote Rx****Merrill & Bryan**

1840-005

130

109

Troubleshoot and diagnose problems on PC's at remote sites. No additional communications software necessary. Tests include CPU, NPU, DMA, interrupts, CMOS, memory, drives, ports, video, monitor, keyboard, mouse. Performance benchmarks. Tips on how to fix problems reported. Also has file transfer and chat window.

**Micro-Scope****Micro 2000**

3991-001

249

245

Operating system independent diagnostic software. Display and modify CMOS setup, displays hardware configuration, CPU test, memory test, floppy test, winchester test using BIOS tables, video test, serial/parallel port testing, and more. Low level formatting for all drive types including SCSI and IDE.

**Test drive (All Types)****Microsystems Development**

2028-007

227

199

Floppy disk drive diagnostic utility checks alignment, spindle speed, read/write ability, hysteresis, head azimuth, hub centering, and continuous alignment. Can also clean drives with any commercially available cleaning disk. Uses text graphics for simplicity, manual gives hints on remedies.

*Supports drive types: 360K 5.25", 1.2M 5.25", or 3.5".*

**Disk Manager Diagnostics****ONTRACK Computer Systems**

1036-006

50

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Detects and isolates disk, controller, or media problems. Locate problems in cabling and jumper connections; test controllers; test read/write, error correction codes; scan test; random read test; seek test. Supports RLL, ST412/506 on XT, AT, and compatible systems under DOS, UNIX, or Novell.

**DOSUTILS****ONTRACK Computer Systems**

1036-007

100

89

Diagnostic, maintenance, and performance utilities for hard disks. Works on partitions greater than 32M. Seek performance, data transfer rate test, low-level initialization, defect management, file maintenance, file recovery, scan for lost clusters, hex/ASCII editor, etc. Supports ST506, RLL, ESDI, SCSI, others.

**Manifest****Quarterdeck**

847-026

60

55

Memory analyzer that locates unused or underused memory, analyzes RAM type and amount, suggests where to load system utilities and resources for increased memory performance, provides information on hardware running, tests memory speed, and more.

**CheckIt****TouchStone Software Corp.**

1971-001

150

109

PC trouble-shooting utility. Reports on exact configuration, runs diagnostic test, and performs benchmarks. Tests CPU, memory, hard and floppy disks, comm ports, video subsystem, input devices, and printer. Reports on CMOS table, IRQ assignments, device drivers, and more.

**DISK OPTIMIZATION AND RECOVERY**

Hard disk management, maintenance, optimization, and recovery of lost data.  
*See also Operating System Enhancements; Memory Managers.*

**dSALVAGE****Comtech Publishing**

783-001

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Menu-driven diagnostic, recovery, and editing software for .DBF files. Repair all forms of damage, usually without need for separate output file. Un-zap file with single keystroke. Editors for search and modification of data or file header.



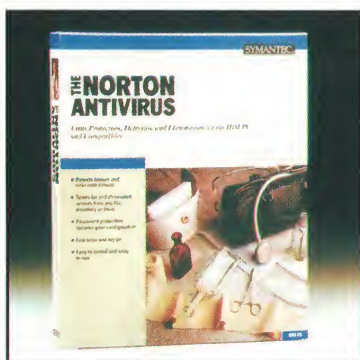
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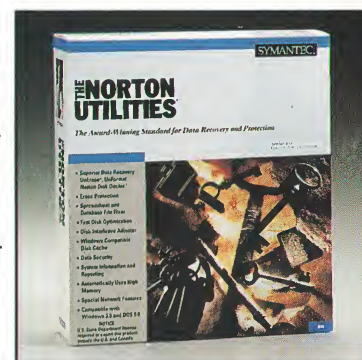
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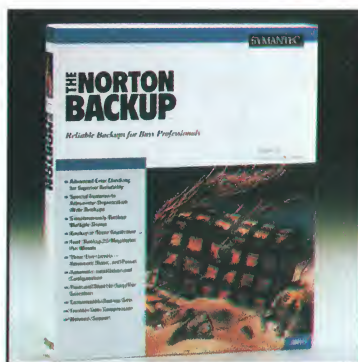
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**And get**

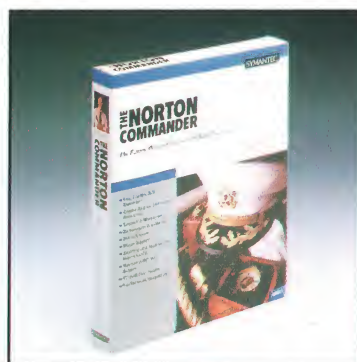


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The Norton Backup



The Norton Commander

A leading DOS manager that integrates file management, file viewers, application launching, E-Mail and PC-to-PC file transfer into one transparent and consistent user interface.

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\*plus \$5.00 shipping and handling U.S. /\$10.00 Canada. (expires July 8, 1991)



## dsALVAGE PROFESSIONAL

Comtech Publishing

783-002

dSalvage "Classic" with enhanced un-ZAP, continue-from-here, header builder, hex/ASCII editor. Compatible with FoxBASE, FoxPro, Clipper, dBASE (all versions), dBaseXL, and with large disk partitions under DOS 4.x. Bundled with DiskMinder sector editor.

## Mace Utilities 1990

Fifth Generation Systems

413-004

Has all the features of Mace 5, plus POP (power-out- protection) that allows recovery of your data even during a power outage or keyboard lock-up. Also includes Mace Backup and text and dBase file recovery utilities.

## OPTune

Gazelle Systems

726-017

Disk optimization utility. Features three modes of file defragmentation, interleave adjustment via non-destructive low-level format, and media verification routines. Includes head-parking utility, DOS structure optimization, and protection against accidental formatting. PC World Best Buy.

## SpinRite II

Gibson Research

1161-002

Hard disk optimization and maintenance. Performs low level hard disk tests, non-destructive reformat. Detects and eliminates correctable hard disk errors. Also technical log; compatible with large, partitioning disk drives; copy-protected software safety; and more.

## BringBack

Parsons Technology

3919-001

Provides up front protection from data loss. It can recover 100% of the last 1000 files worked on whether it was modified, deleted, or over-written. It can also record up to 120,00 keystrokes to the hard disk to protect from power outages. Stores last three DOS commands and replays with a keystroke.

## Disk Technician Advanced

Prime Solutions

1624-003

Predicts, prevents, repairs hard disk problems that cause data loss, data corruption, and crashes. Optimizes interleaving. Fully automated or manual operation. Includes SafePark head parking program to protect data against power problems.

## Disk Technician Gold

Prime Solutions

1624-005

Hard disk utility installs as memory resident driver and runs in background without user intervention. Has interleave testing and resetting, data recovery, virus protection, defragmenting, low level formatting. Preventative maintenance: finds bad sectors and closes them off from further use. Mouse support and menus.

## Disk Optimizer

SoftLogic Solutions

143-002

Unfragments files on hard disk and creates optimal physical file layout to speed up access. GUARDIAN offers complete recovery of deleted files and accidental hard disk formatting. Other utilities for better organization of files and password protection.

## Norton Utilities 5.0

Symantec

1231-011

DOS utility toolset for unerasing, finding, and showing attributes of files. Optimizes by un-fragmenting clusters on the hard disk. Recovers data. Searches for text string in any type of file. Tests disks. Show system configurations. Provides other useful disk utilities.

## FAX UTILITIES

Products that allow use of facsimile hardware and facilities from networked groups of computers.

## FaxFacts for 1 line

Copia International

1625-051

Fully automated fax-on-demand system provides unattended 24-hour Customer Service to callers requesting printed materials. Users dial from fax phone and receive data during the same call or from a call back. Users respond to voice messages by pressing a series of touch-tones. Many features included. Requires AT class machine. Also available for 2 or 4 telephone lines. All hardware included.

## FILE COMPRESSION

Programs for compressing the size of file, reducing the amount of space they require for storage.

See also Backup; Disk Optimization and Recovery; Sort and Data Compression.

## PKLITE Professional

PKWare Inc

3043-009

Allows distribution of .exe files compressed with PKLITE. Extra compression option gives greater compression, thereby preventing source code from being inspected by end users.

## PKUNZIP

PKWare Inc

3043-003

Data extraction utility with full ZIP file maintenance functions and advanced features, including Multitasking and Network support.

## PKZIP

PKWare Inc

3043-001

File compression utility that increases disk storage capacity. Uses a number of different algorithms to achieve an average savings of 45-60%, and up to ten times with database and spreadsheet files. Ensures data integrity with CRC.

## ARC+PLUS

System Enhancement

3012-001

File compression with Windows-like pull-down menu. Select and organize word processing, spreadsheet, or database files. Full archive management; CRC checking to ensure data integrity; fully compatible with earlier ARC versions; multi-diskette backup support; mouse support; more.

## FORMAT CONVERSION

Utilities for converting files or data from one format to another, including from one disk format to another.

See also Communications Utilities.

## R Doc/X

Advanced Computer Innovation

837-001

Word processing conversion. Supports 32 formats. Features converted include tabs, indents, centering, boldface, underline, italics, page breaks, and more. Allows multiple-file conversions in a single operation.

## DBMS/COPY

Conceptual Software

1306-001

Menu-driven file transfer utility that converts data among over 65 software packages. Supports almost all major databases, spreadsheets, and SQL databases; all major statistics packages; and all ASCII formats.

## DBMS/COPY Plus

Conceptual Software

1306-002

All features of DBMS/COPY; also includes programming language that allows user to select variables, filter records, and perform computations during conversion. Function library includes mathematic, trigonometric, date, probability, financial, and character-manipulation functions.

## Envision It!

Envisions

2684-001

Raster to vector conversion with editing capabilities. Converts between TIF, DXF, GEM, Postscript, IGES, ASCII XY coordinates, HPGL, Ventura DTP, DesignCAD, and PCX. Includes font manipulation and spline curves. Fully functional drawing program.

## Graphics Link Plus

HSC Software

2606-001

Raster-based 8-bit graphics file conversion. Supports almost all leading file formats for conversion. Full color to full color, color to gray scale; black and white image transformations. Compatible with Ventura, Pagemaker, PC Paintbrush, Animator, more. Full color screen captures, DOS graphics/text and more.

## HiJaak

Inset Systems

1085-003

Conversion program for graphics files. Convert to/from Amiga, Compuserve GIF, Dr. Halo, CCITT Fax, GEM Paint, HP Laserjet PCL, Inset, MacPaint, MS Paint, PC Paintbrush, TIFF, and WordPerfect formats. Also accepts ASCII Text, HPGL, and Lotus PIC formats, and can output in encapsulated PostScript.

## Hijaak PS

Inset Systems

1085-005

Combination of Hijaak and GoScript, a PostScript language interpreter. See GoScript description under PostScript Tools section of catalog.

## Magic Mirror

SoftLogic Solutions

143-005

Data integration program for data capture and transfer. Memory resident, setup reusable capture patterns, automatically reformats upon transfer.

## Software Bridge

Systems Compatibility

1389-001

Word processing format conversion utility retains the formatting of the original document in the converted document. Supports indents, tabs, bold, underlining, footnotes, headers, footers, fonts, and many other characteristics. Unwanted hard returns replaced with soft ones for proper wordwrapping. Convert to MAC also.

## Data Junction Advanced

Tools & Techniques

1377-001

Supports all Professional edition formats plus: Oracle, XDB, Informix, and C-ISAM file formats.

## Data Junction Professional

Tools & Techniques

1377-001

Supports all Standard edition formats plus: Paradox, R:BASE, Clarion, Excel, SYLK, SuperCalc 4, Btrieve, c-tree, and mainframe EBCDIC file formats. Also, Intel, VAX, Cray, Sparc, 68000, and IBM binary file formats.

## Data Junction Standard

Tools & Techniques

1377-001

Data conversion tool. Edit data and re-arrange records, fields, and bytes during translation. Interactive menu and batch modes. Supports ASCII confd.



The answer to too much rebooting  
and not enough memory!

## WHY REBOOT?

Remove Device Drivers  
and TSR's instead with

### Dynamic Memory Control

Load and remove TSR's and Device Drivers from memory and clear them out 100% without rebooting. Don't waste valuable memory resources with resident programs and device drivers that are not being used. *Recycle your memory instead!*

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- Load and remove TSR's and Device Drivers any time with easy commands
- Avoid multiple CONFIG.SYS and AUTOEXEC.BAT files
- Add simple commands to any batch file, or your favorite menu system

**Dynamic Memory Control** can also work with Memory Managers to load and remove TSR's and Device Drivers in High Memory or Upper Memory Blocks (UMB's). Less than 2K overhead when loaded, zero K when unloaded.

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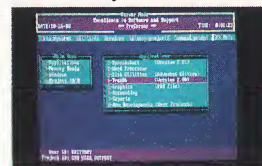
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### SAY GOODBYE TO "OUT OF MEMORY" ERRORS!

You bought your 386 for some very good reasons. Power. Speed. Performance. But are you really getting the most out of your investment? Without memory management software, chances are the answer is no. 386MAX and BlueMAX let you get MAXimum performance out of your 386. Our memory managers give your software the room it needs to run faster and more efficiently.

### PS/2 CONTROL!

BlueMAX is the newest addition to the Qualitas family of memory management products. When BlueMAX manages your system's memory, you recover an additional 80+ KB high DOS memory! BlueMAX's unique technology provides the ideal memory management solution for 386 PS/2 users.

### NOW RUN WINDOWS TO THE MAX!

Windows 3.0 user? Our memory managers improve Windows performance by moving resident software out of low

DOS memory, giving Windows more room to run. 386MAX and BlueMAX are the *only* memory managers that provide *instanting* capabilities for TSRs. This exclusive feature allows many TSRs to run completely independently in every DOS window you open!

Run  
Your 386  
to the  
MAX!

386MAX

BlueMAX

### DISCOVER QUALITAS TECHNOLOGY!

Qualitas memory management products deliver quality, reliability, and innovative optimization features you won't find anywhere else:

◆ **FlexFrame**—The newest innovation in memory management technology. FlexFrame loads more programs into high DOS than ever before by temporarily removing the EMS page frame during TSR initialization.

◆ **Guaranteed EMS Page Frame in high DOS**—Using BlueMAX, the EMS page frame is now located efficiently and easily in high DOS on PS/2 systems.

◆ **Automatic Adapter Relocation**—Only 386MAX and BlueMAX automatically readdress Micro Channel adapters to give you larger, contiguous blocks of high DOS memory.

◆ **Complete Diagnostic Tools**—Both 386MAX and BlueMAX come equipped with an exhaustive set of diagnostics that let you pinpoint memory usage.

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(fixed, delimited, fielded, report); mail merge; Lotus 1-2-3 1.a, 2.01, 3; Symphony; dBASE II/III/IV; Enable; FoxBASE+; Clipper; Q&A; DIF; and askSam file formats.

### Spreadsheet Junction Advance Tools & Techniques

Supports Professional edition file formats plus Uniplex.

1377-004

299

279

### Spreadsheet Junction Professional Tools & Techniques

Translates popular spreadsheet formats. Data, formulas, format, and some macros translated during conversion. Interactive menu and batch modes. Error logging. Supports Sylk, 1-2-3, SuperCalc 4, Enable 1 and 2, Multiplan 2.0, Excel, DIF, and ASCII file formats.

1377-004

199

185

### Autolport

#### White Crane Systems

Translates ASCII data into 1-2-3, Symphony, dBASE, Quattro, Excel, ASCII comma delimited, DIF, and SYLK. Translates editing marks and dates, strips control characters. Lotus-style menus; batch file automation via mask definition file. Useful for loading downloaded reports into spreadsheets and databases.

1932-003

170

159

## GRAPHIC UTILITIES

Programs for graphic manipulation, emulation, and format conversion.

See also *Format Conversion; Graphics Libraries; Graphic Windows; Multi-media Databases; Presentation Graphics; Text Screens; Translators; Video Hardware.*

### Pizzazz Plus

#### Aptec

Screen capture and print facility. Adjust size, proportion, rotation, or placement on page. Up to 16 million print shades supported on color printers, 256 grey shades on black and white printers. Quality prints of VGA screens. Works with many hardware and software combinations, 425 printers. Captures Windows screens.

1443-003

149

129

### Phips

#### Maxa Corporation

Color reduction, image processing and conversion program allows unlimited variations of conversion and reductions between graphics formats and video modes. Display and manipulate 16-24-32 bit TARGA or TIFF true color images for inclusion in animation, editing or publishing programs. Dithering and color-space scaling.

3911-013

349

299

## KEYBOARD AND BATCH ENHANCERS

Packages for improving and expanding DOS keyboard performance and batch file processing.

See also *Menuing Systems and Shells; TSR's and DOS Utilities.*

### Keywords Advanced

#### Alpha Software

Allows for recording sequences of keystrokes and then playing them back with a single key. Powerful language with interface to programs written in other languages that can be used to create sophisticated macros. Features include an editor, creation of "text only" macros, screen save, file encryption, cut/paste, more.

2138-002

199

169

### Superkey

#### Borland

Record/playback keystroke sequences, security features.

777-012

100

77

### The Builder

#### Hyperkinetix

Compiles existing .BAT files into .COM or .EXE files for speed and added security. Extends DOS batch language with over 70 new commands: full file I/O, screen control, system information, variables, and programming control. Includes integrated environment, on-line help, and linker. Distribute .COM and .EXE files royalty free.

1809-001

149

129

### Scroll & Recall

#### Opt-Tech Data Processing

Memory resident utility to recall data that has scrolled off the screen. Also maintains history of DOS commands, which can be recalled. Up to 27 screens of data can be recalled or written to file.

Requires 64K.

104-004

69

63

### ProKey Plus

#### Rosesoft

Macro processor allows key reassignment, unlimited definitions up to 30k characters long, popup menus, recorder mode, predefined sets for popular applications.

1925-001

130

119

### Batcom

#### Wenham Software

Compiles .BAT files into .EXE. Extends DOS functions, including keyboard input, subroutines, while loops, and more. Protects source code. No royalties.

1646-001

59

55

## MEMORY MANAGERS

Allow you to perform such functions as converting extended memory and hard disk space to expanded memory; moving TSR's to high memory; and swapping high and low memory to improve performance.

See also *Operating System Enhancements; Memory Hardware; Multi-Tasking Enhancements; OS/2.*

### AboveMEM

#### Above Software

1929-004

80

69

Memory utility for Lotus 1-2-3. Invoked from Lotus to provide direct access of up to 1M of memory by converting extended memory to expanded memory. Compatible with Allways, Impress, and other Lotus add-in utilities.

Supports Lotus 1-2-3 version 2.0, 2.01, and 2.2.

### Dynamic Memory Control

#### Adlersparre & Associates

3872-001

80

75

Allows loading and unloading of any combination of TSR's and device drivers without rebooting. Maintain only one autoexec.bat and config.sys file. Includes memory display program that shows the contents of all the types of memory. DMC commands can be added to batch files or any Menu system.

### ALL CHARGE 386

#### All Computers

1780-007

99

79

Memory management software for 386SX, 386DX, and 486. Use extended memory to provide LIM EMS 4.0. Loads TSRs, files, buffers, and device drivers above 640K. Runs Novell and other networks in OK. Windows 3.0 compatible. Uses only 1.2K.

### ALL CHARGE CARD

#### All Computers

1780-009

299

219

Memory coprocessor for the 80286. Manages memory like a 80386. Use extended memory to provide LIM EMS 4.0. Loads TSRs, files, buffers, and device drivers above 640K. Runs Novell and other networks in OK.

### Switch-It

#### Better Software Technology

1970-001

100

87

Works with a large number of popular software packages to allow you to run any package from within any other. Supported packages include dBASE III and IV, FoxBASE, Clipper, Clarion, Lotus 1-2-3, Quattro, WordPerfect, Microsoft Word, WordStar, PC Tools, XTREE, Turbo C, Turbo Pascal, Quick C, Quick Basic.

### Dr. Switch

#### Black & White

1178-003

60

55

Set of memory management utilities that free up conventional 640K. Swaps RAM-resident programs to extended or expanded memory.

### V-EMM Gold

#### Fort's Software

1205-004

130

119

Provides EMS simulation using combination of conventional memory, extended memory, and hard disk. Provides additional virtual memory using hard disk. Transforms 96K of EGA/VGA into DOS memory. Loads device drivers, TSRs, and buffers above 640K.

Loader requires EMS 4.0, PS/2 80386, or C&T CHIPSet.

### HEADROOM

#### Helix Software

1623-001

129

89

Increases the amount of memory available on your system by swapping out both TSR's and entire applications. Switch quickly between programs without having to save and exit. Supports LIM 3.2 and LIM 4.0. HEADROOM uses 50k of RAM. Also supports High DOS loading.

### Netroom

#### Helix Software

1623-009

80

79

Relocate device drivers, TSR's, Novell's IPX and NetBIOS, NET3/NET4 into expanded, extended, and High DOS memory. Supports many LANs: NetWare, IBM PC LAN, VINES, etc. DISCOVER utility displays information about hardware/software memory configurations. Four, 10-user and 100-user licenses available.

### Turbo EMS

#### Merrill & Bryan

1511-001

100

89

Converts system resources on any PC, XT, AT, PS/2, or 386 into LIM 4.0 expanded memory. Includes SHUTTLE! which relocates TSRs, device drivers, network shells out of conventional memory on non-386. Reconfigurable without rebooting. Automatic spillover between various combinations of memory. Windows and DesQview support.

### 386MAX 5.1

#### Qualitas

123-004

130

95

Uses 386 page-mode features and extended memory to emulate LIM 4.0 EMS memory. Loads TSRs and device drivers, including most network shells, into high memory. Remaps slow ROM into fast RAM, determines initialization and resident code sizes of fragmented high DOS memory. Fully supports Windows enhanced mode.

### Blue Max

#### Qualitas

123-010

155

149

All 386MAX capabilities with special enhancements for PS/2 systems. Uses BIOS compression to recover additional 80-84 KB more memory. Automatically analyzes and reconfigures PS/2 adapters to access largest possible blocks of usable high DOS memory. Instanting allows many TSRs to run under Windows.



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Richard H. Shaw, PC MAGAZINE, May 29, 1990

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- ◆ **Automatically produces written documentation** of your logic, which insures good communications between designer and coder. (And helps remind you of the logic from one work session to the next.)

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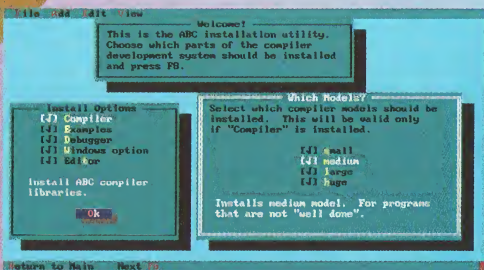


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EASY TO USE CASE TOOLS make designing your installation SYSTEM FAST and ACCURATE. Using MOUSE or KEYBOARD, CREATE a highly flexible MENU driven installation. Optional help and INFORMATIONAL TEXT can be added TO MENU ITEMS to provide a clear understanding of your options.

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The Stork provides a fast, professional, EASY TO USE installation procedure. You can use your favorite compression software or the compression system supplied. A wide variety of reports is available at all stages of development. A video training tape, plenty of examples, and a slick user interface will get you up and running quickly. A simulation mode lets you rapidly preview your installation without the tedium of loading floppy diskettes. Extensive hardware checks insure your customer's system

CAN PROPERLY RUN your product. You can even simulate any hardware check violation regardless of your system's own hardware. Spawning an external program gives the added flexibility of running application specific functions. Finally, a media builder creates your master diskettes painlessly: no more forgotten files or last minute overflowed disks. With The Stork's unique architecture, you can make accurate changes rapidly.

**No risk 30 day WARRANTY.**

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**MOVE'EM****Qualitas****123-006**

89

75

Program loader moves TSRs and device drivers out of conventional memory, expands memory to give full use of 640KB (more on monochrome displays).

*Requires C&T CHIPSet or full hardware LIM EMS 4.0 256K.*

**QEMM-386****Quarterdeck****847-037**

100

89

Extended memory driver for 386. Transforms extended memory into expanded memory. Compatible with EMS 3.2 and 4.0 and EEMS. Utilizes high memory, EGA, VGA video memory, and extended memory. Load TSRs, device drivers, and DOS resources into high memory. Windows 3.0 compatible.

*Requires 386 machine.*

**QEMM-50/60****Quarterdeck****847-007**

100

89

QEMM for the PS/2 models 50 and 60.

**GRAM****Quarterdeck****847-018**

80

65

Memory optimizer package of utilities. Finds unused addresses and maps memory into them. Examines AUTOEXEC.BAT and CONFIG.SYS to determine what drivers, TSRs, and DOS resources can be loaded high. Allows use of freed memory in EGA- or VGA-equipped PCs when not in graphics mode.

**HI386 Complete****RYBS Electronics****2619-001**

100

89

Up to 928K of real DOS memory. Use existing motherboard memory. For computer systems using Chips & Technologies NET, LEAP, TREAT chipsets. Initializes up to 928K of DOS memory in real mode. No additional hardware required.

**Software Carousel****SoftLogic Solutions****143-004**

80

69

Switching among applications, including spreadsheets, graphics, and databases. Resume applications where stopped. Use any kind of RAM for swapping, including LIM EMS, extended RAM, and even hard disk used as RAM.

**Memory Commander****V Communications****924-020**

99

89

Expands main memory up to 900K, while offering complete 386/486 memory management features. Full EMS emulation. Load TSRs and drivers into high memory. Both DOS and Windows 3.0 compatible.

**MENUING SYSTEMS AND SHELLS**

Programs to hide or enhance the DOS command line and allow more flexible file handling. See also *Help Guides and Training*; *TSR's and DOS utilities*; *Keyboard and Batch Enhancers*; *Text Screen Libraries*.

**PreCursor****Aldridge Company****1131-002**

96

89

Menu system containing tree-based graphic file management utility with tracking and reports. Password security, parameter control, user help files, screen blanking, colors, hot key API interface for extension, more. Network compatible.

**Tree86****Aldridge Company****1131-001**

90

85

Tool for data migration and advanced file management. Pull-down menus for options. Features instant access to single or multiple drives, mouse and expanded memory support. Includes xcopy or move files across drives, find, view, edit, tag, sort, text search, and backup.

**MultiBoot****Bolt Systems****1449-001**

50

50

OS/2 and DOS booting utility. Boots DOS or OS/2 without floppies. Automatically boots preferred system. For OS/2 compatible IBM PC AT, XT, or PS/2.

*Requires DOS 3.0 or higher.*

**PC Tools Deluxe 7.0****Central Point Software****328-008**

179

149

Memory resident disk and file utility. Compress, backup, restore, rebuild, and undelete files. Also includes disk cache utility, DOS shell, 3 calculators, notepads, outliner, DES encryption utility, scheduler, background file transfer utility, and disk optimizer.

**The Emcee****Command Software****1275-001**

90

85

Menu system with multi-level password security, path finding, system user log, data encryption, and context sensitive help. Uses 3K. User definable screens; hot keys; menu editor; screen blanking; auto start; more. Network version available.

**QuickMenu****Crescent Software****716-006**

59

59

Non-memory resident DOS menuing system. Assign commands to menu selections, up to 9 choices per menu, unlimited number of menus, full screen editor, password protection. Complete BASIC source included.

**Direct Access****Delta Technology****1202-003**

99

85

Menu system. Organizes software programs on hard disk into user-defined menu. Automated menu building, mouse support, multiple menu options, usage tracking, virus detection, password protection. Not memory resident.

**Q-DOS II****Gazelle Systems****726-002**

80

65

Hard disk file manager, flexible configuration. Includes text editor. Performs DOS commands with increased speed.

**KeyWord Commander II/PC****Logical Solutions****4036-001**

50

50

PC menu shell user interface. Uses less than 2K of memory, can be set up into display in minutes, allows one key access to programs, up to 8000 pages user defined on-line documentation, complete password security, screen blanking, and color control.

**Norton Commander****Symantec****1237-002**

149

119

DOS shell, simplifies file manipulation, builds menus. File transfer between computers. Launch applications. File viewer supports many file formats. View two directories at once. Backup features. Supports mouse, EGA/VGA.

**X-Tree Net Advanced****XTree Company****1912-006**

495

419

Version of X-Tree Pro for Novell NetWare. Features file attribute security. Use configuration program to limit viewing of files and command use to authorized users.

**XTree****XTree Company****1912-001**

39

39

Menu utility for DOS. Provides user interface to command line DOS. Provides access to DOS applications.

**XTree Pro****XTree Company****1912-002**

89

89

DOS shell which shows directories as a tree structure. Additional "Pro" features include support for up to 26 drives and 16,000 files. Network version available.

**XTree Pro Gold****XTree Company****1912-005**

149

129

Also includes point-and-shoot operations, EGA/VGA support, supports third-party editors, application menu for customized interfaces, split-screen windows, archive manager, keystroke history, hex editor, integrated mouse support, and more.

**MULTI-TASKING ENHANCEMENTS**

Applications that enhance DOS by allowing multiple applications to run simultaneously or by providing easy switching between applications.

See also *Operating Systems Enhancements*; *Memory Managers*; *OS/2*; *Other Operating Systems*; *Microsoft Windows*.

**VM/386****IGC****1517-001**

245

229

Create virtual 8086 machines that run concurrently on your 386. True multitasking capabilities. Includes graphics support, task scheduling routine. Add-on for virtual network connections available.

**VM/386 Net Pak****IGC****1517-004**

150

129

Allows VM/386 virtual machines to share a network connection. Each virtual machine acts as if it had its own network connection.

*Requires VM/386.*

**DESQview****Quarterdeck****847-001**

130

119

Multitasking and windowing utility for DOS. Breaks 640K barrier by swapping programs to disk or extended/expanded memory. Runs Windows 2 or 3, GEM, and TopView applications. Runtime available, royalties apply.

**DESQview 386****Quarterdeck****847-001**

220

189

Combination of DESQview and QEMM-386. Windows 3.0 compatible.

**DoubleDOS****SoftLogic Solutions****143-003**

70

65

Runs two concurrent application programs and switches between them. Perform print, plot, communication, or other task in background while running another program in foreground. Supports EGA, direct screen writers, and 1M of LIM EMS 4.0.



## Control & Protect Your Data Resources

Can you imagine the painful consequences of a security breach or a virus attack? We can, we've heard all of the horror stories. Now, with such inexpensive access control available, there is no reason not to feel secure. Sleep nights knowing you've got a security guardian.

# SECURITY

## *Guardian*

Easy to install and maintain, flexible access control program. Memory efficient (17K). Comprehensive, protects unattended PCs even when processing, locks directories and files, protects against Viruses.

Features include:

*Audit trail \* Timed intermission  
Report generator \* Timed logoff  
Definable passwords \* Encryption  
Password aging \* Security report  
Global lockout dates \* User IDs  
Virus Control \* Prevent copying  
Dual administrators \* DOS control*

## FREEZE!!

FREEZE!! provides access control to individual or networked PCs and protects against viruses. FREEZE!! supports 1-5 access passwords. Intermission (Timed & Manual) allows the user to blank the screen and freeze the keyboard when the PC is unattended. The computer will continue to process. Additional security switches can be set on a user by user basis.

### Products from Command Software

FREEZE II, Access control software	\$89.95
HardGARD, Access control hardware & software	\$99.95
EMCEE	\$89.95
LANGARD, Access control & auditing from	\$395.00
Security Guardian	\$250.00



**COMMAND**  
Software Systems

1061 E. INDIANTOWN RD., #210  
JUPITER, FL 33477  
(800) 423-9147

Call THE PROGRAMMER'S SHOP at 1-800-421-8006.

**COVER YOUR ACCESS**

# Hard Lock

## PUT A PADLOCK ON YOUR HARD DISK!

Protect your valuable hard disk data. **HARDLOCK** gives your IBM PC or compatible password access to its hard drives. Authorized users have full use of the programs and files on your hard disk, while "the wrong people" are kept locked out!

With **HARDLOCK** installed on a hard disk, you are asked to enter the correct password at each boot-up. Typing the right password will give you total access to your PC and its data; you won't even know that **HARDLOCK** is there. Yet, without the correct password, the entire hard disk is locked up tight!

- Cannot be by-passed by booting from floppy
- Protects ALL hard disk partitions on 1 or 2 hard drives
- Password can be up to 16 characters long and is case sensitive
- "Coffee-break" mode lets you lock a system without rebooting
- Optional Floppy Key Diskette protects you from forgotten passwords
- Does not take up any system memory while protecting hard drives
- Works with DOS 2.0 or higher

Available from *The Programmer's Shop*, or direct from

**BIGFOOT DEVELOPMENT**

P.O. Box 484 • Amherst, NH 03031 • (603) 672-3556

KEYWORD

## COMMANDER II

"Its simplicity is completely misleading. On the surface it offers an uncluttered user interface." With Commander II not only will you find a state of the art full feature menu, but also the ability to:

- reorganize the display of your menu
- create up to 8000 user defined information/documentation windows
- update parts of a menu even after an individual user has added functions of their own
- utilize 2K of memory

*Being responsible for a network or other groups, can you afford not to try this package? See for yourself.*

See our listings in the utilities and COM/LAN sections. To order, call **THE PROGRAMMER'S SHOP** at 800-421-8006.

Logical Solutions Computer Systems Inc.

4624 Varsity Drive N.W., Calgary AB, Canada T3A 2L9

Direct Commander II Line: (403) 299-9927





## POSTSCRIPT

Page description language developed by Adobe for communication between applications and printers. Both the application and the printer must be designed to use PostScript. This section includes products for interpreting and translating PostScript code.  
*See also Print Control; Print Libraries; Printer Management; Presentation Graphics; Desktop Publishing and Text Formatting; Graphics Libraries.*

<b>LaserTalk</b> Emerald City	1225-001	399	349
Allows direct interpretive control of a PostScript printer from a PC. Also screen preview, debugger, on-line help, editor. Includes MS Windows runtime. <i>Requires a PostScript printer.</i>			
<b>GoScript</b> Lasergo	1331-001	149	129
PostScript language Interpreter software with 13 outline fonts. Print text and graphics on laser, ink jet, and dot matrix printers. Precise font scaling, rotation, kerning, and special effects. Interactive mode allows direct PostScript programming.			
<b>UltraScript PC</b> PM ware	5034-001	195	179
Prints PostScript documents on most dot matrix, ink jet, or laser printers. Includes licensed PostScript typefaces, transparent printing within PostScript applications, full color support, enlarging/reducing, rotation, outline, shadow, shade, halftone, more. Save documents as TIFF or PCX files.			

## PRINT CONTROL AND FONT EDITORS

Output control via spoolers and tools for modifying the appearance of characters.  
*See also Print Libraries and Bar Codes; PostScript; Presentation Graphics; Graphics Libraries.*

<b>PIXelPrint</b> Autumn Hill Software	1263-011	75	75
Prints graphics file formats on printer. Supports .ART, .IMG, .MSP, .PCX, .PCC, .TIF, and .WPG. Supports 2, 16, or 256 colors or 256 gray scale levels. Image scaling and rotation; palette and color adjustment; image positioning; more. PCL command interpreter. Command line, interactive, batch modes. Royalties.			
<b>PrintBar II</b> Bear Rock	1260-001	295	279
TSR bar code print utility that intercepts printer streams, looks for a user-defined code sequence, and substitutes a bar code when it finds one. Supports code 3 of 9, interleaved 2 of 5, UPC, and EAN formats; dot matrix and LaserJet printers.			
<b>Dan Bricklin's PageGarden</b> Bloc Publishing	147-005	100	89
Allows users to add graphics to reports, lists, envelopes, and more. Creates formats for repetitive printing tasks. Includes full support for HP LaserJet and PostScript compatible laser printers.			
<b>Sideways</b> Funk Software	2067-001	70	59
Allows printing of wide documents by printing them sideways. Nine different character sizes, supports bold, underlined, various pitch sizes, and expanded text. Works inside Lotus 1-2-3 and Symphony or as a standalone program with any text or ASCII file. <i>Supports popular dot matrix printers, LaserJet Plus/II.</i>			
<b>PrintAPlot</b> Insight Development	982-007	299	239
Allows printers to act like high resolution plotters. Supports DEC and HP dot-matrix, inkjet, and laser. Control color, pen widths, scaling (from 1% to 600%), object shading, pattern filling, Tilting, X and Y positioning, rotation, multiple language support, more.			
<b>PrintQ</b> Software Direction	1641-003	149	89
Memory resident print spooler. Control print priority, print multiple copies, write to disk and spool print files at a later time.			

## REPORTING UTILITIES

Utilities used to analyse database information and generate reports.

<b>Clarion Report Writer</b> Clarion Software	1005-016	199	159
Menu-driven, WYSIWYG ad-hoc querying and reporting. "Join" separate files, filter records, unlimited group breaks, sort any order, use memo fields. "Free-form" or automatic field placement, "logical" printer support. Reads Clarion, dBase, dIF, and BASIC files.			
<b>R&amp;R Code Generator</b> Concentric Data	308-008	149	129
Addon to R&R Relational Reportwriter to generate report programs from saved reports. <i>Requires R&amp;R Relational Reportwriter.</i>			
<b>R&amp;R for dBASE/Compatibles</b> Concentric Data	308-015	249	229
Report Writer for developers and end users. Establish relations between <i>cont'd.</i>			

multiple database files and generate reports from those linked files using Lotus like commands and menus. English like queries and sorts to select data. Includes extensive printer drivers, proportional fonts, WYSIWYG display, instant reports.

*Requires dBASE compatible DBMS. Unlimited runtime incl.*

## R&amp;R Report Writer for SQL

Concentric Data	308-009	299	269
Create, modify, and print reports from SQL databases using Lotus-like commands and menus. Requires no knowledge of SQL. Selects records with plain English query. Calculate new fields using arithmetic, string, and logical operators and 70 built-in functions. <i>Available for Novell SQL, Oracle SQL, and xdb SQL.</i>			

## ProPrint Report Generator

Conquest Data	3820-001	189	185
dBASE III, Btrieve, binary, and ASCII file report writer. WYSIWYG line definitions. Print headings, detail lines, final totals, and up to 4 levels of control break. Send output to disk, printer, or screen. Establish multiple file relationships. Create user defined routines to perform math and string functions.			

## ProPrint &amp; C Code Generator

Conquest Data	3820-003	400	389
Includes ProPrint Report Writer and ability to generate C report programs from any ProPrint Report Generator report. Supports all ProPrint Report Generator functions, including dBASE III, Btrieve, ASCII, and binary data file support. All user defined variable names are used in the generated C programs.			

## Insight Report Writer

First Choice	2699-001	179	159
Btrieve report writer featuring user-friendly interface, integrated on-line data dictionary, file linkage capabilities, page format commands, on-line help, and look-up windows. Full report writer or runtime available. Screen look and feel can be customized to match applications. LAN versions available. <i>Requires Btrieve 3.0 or later.</i>			

## Insight Report Writer 2-5

First Choice	2699-004	299	239
LAN version for 2-5 users.			

## Insight Report Writer6-10

First Choice	2699-005	499	399
LAN version for 6-10 users.			

## Insight Report Write Ult

First Choice	2699-006	699	560
LAN version for 11 or more users.			

## Snow Reportwriter

Snow Software	1136-001	695	619
Compatible with most popular applications, includes 4th generation query language, screen painter, guided tour tutorial, online help, more.			

## SCANNER SOFTWARE AND OCR

Scanner software are products that provide interfaces to scanners. OCR software provides optical-character recognition for scanned images, converting graphic images of letters into ASCII text.

<b>OmniPage 386</b> Caere Corporation	1993-001	895	795
Page-recognition package scans all document types, separates text from graphics. Compatible with almost all fonts and typefaces, from 6 to 72 points in any of 10 European languages. Editor for processed text. Can save text for use in most major file formats. Supports Mac or DOS compatible scanners. 286 version available. <i>Requires 386 and 4MB.</i>			
<b>HSC SunScan</b> HSC Software	2606-003	299	289
Universal, full color scanning software front end. View 16- and 24-bit TARGA imaging directly to 256-color SVGA, VGA, or EGA displays. Controls Microtek 300Z, Sharp JX-300/Jx-450, Howtek Scanmaster/Scanmaster II, and HP Scanjet/Scanjet+. MS Windows not needed. Includes image manipulation features. <i>Supports almost all SVGA/VGA level chip sets, drivers.</i>			

## SECURITY AND VIRUS PROTECTION

System, disk, and file security, usually by password; virus detection and avoidance.  
*See also Security Hardware.*

## File Lock -2 Key Configuration

313R/E Ltd.	3244-003	250	219
Combination of software and hardware to protect sensitive data. Inserts into any serial or parallel port to allow secured data to be accessed from within an application. Compresses secured files. Comes with 2 keys; additional versions available with 3 or 4 keys.			

## HARDLOCK

Bigfoot Development	0-001	49	46
Hard drive security system that prevents access via password protection. Passwords can be 0-16 characters long and are case sensitive. Hard drive and files cannot be accessed even if PC is booted from a floppy. Optional <i>cont'd.</i>			





# File Protection and Virus Protection

## Two Top Performers at Breakthrough Prices!



**BringBack protects your work—  
saves time and worry.**

**PROTECTION**—New category of software lets you work safely.

BringBack was created by two aeronautical engineers who became fed up with lost, overwritten and accidentally deleted files. They developed a program that uses little space, works fast and provides up-front

**How much is a morning's work worth?**

BringBack is a great low-cost insurance policy for everyone's files. It's like having an uninterruptible power supply, too—allowing for recovery from a power glitch immediately, without losing a keystroke. You run the same programs the same way, at the same speed—BringBack is so well designed, you won't even know it's there. Until you need it.

**WORKS THREE WAYS—**

**ComeBack** recovers 100% of up to the last 1000 files worked on, even if they were modified, deleted or overwritten!

**PlayBack** is a keystroke-logging utility that transparently records up to 120,000 keystrokes to a hard disk. Protects against power outages, system lockups and software bugs.

**CommandBack** stores the last 31 DOS commands and replays them at the stroke of a key. Saves time and effort when moving between programs. Reduces long command paths to one or two keystrokes.

**System Requirements.**

BringBack requires an IBM or compatible PC with 256K or more RAM, DOS 2.11 or higher, dual floppy or hard drive (1.0 MB free disk space recommended). PlayBack does not work with Microsoft Works or Excel.

**BringBack...\$35**

*Suggested retail price*



Parade Technology  
375 Collins Road NE  
PO Box 3120  
Cedar Rapids, IA 52406-3120  
1-800-369-5000, FAX 319-395-0386

**VirusCide detects and  
destroys computer viruses.**

**How worried should users be?**

Plenty. The Computer Virus Industry Association logged over 300,000 virus infections in 1989. Reported infections in 1990 increased by the rate of 10% per month. Hundreds of known virus strains now exist. A computer can catch one from ANY external source—modems, diskettes, networks, user bulletin boards.

It's no longer a question of "if" they'll be exposed... it's a matter of "when."

Prevention and vaccination programs aren't enough. They trigger false alarms, costing time, worry and money. Even worse, these programs allow up to 40% of all viruses to enter a user's system. That's why John McAfee, one of the world's foremost computer virus experts, helped us create VirusCide.

**VirusCide detects and destroys all currently known viruses and repairs the infected programs in most cases.**

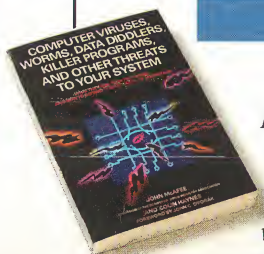
VirusCide can quickly detect viruses on floppy disks, hard disks and network drives. VirusCide can be called from the AUTOEXEC. BAT file or run directly any time you want to scan a disk or file. When it detects a virus, VirusCide removes it and restores the program to normal. It even kills viruses in memory before it begins a scan, and provides on-line information about each virus it detects.

**System Requirements.**

VirusCide requires an IBM or compatible PC, 256K or more RAM and DOS 2.0 or higher.

**VirusCide...\$49**

*Suggested retail price*



**FREE** with each copy of VirusCide — this 236-page book (a \$16.95 value) is crammed with practical explanations and expert advice about computer viruses. Users can learn what viruses are, what they do and what to do about them.



floppy key disk guards against "lost passwords. HARDLOCK works on any number of partitions.

## FREEZE!!

Command Software

1275-009

Software boot protection for PCs or LAN workstations. Blank screen and freeze keyboard of unattended workstations. Control: copying .EXE or .COM files, floppy reads and writes, absolute disk I/O, control breaks, file attribute changes, and protection of .SYS files.

## HARDGUARD

Command Software

1275-011

Hardware card prevents booting from the hard drive. Software provides logon screen for up to five users, keyboard and screen locking timed and manual. Security switches provide boot protection, prevent attribute changes and copying of .EXE and .COM files, and provide virus protection.

## Security Guardian

Command Software

1275-003

Boot security controls access to hard disk. Directory locking sets user privileges. Timed logoff disables keyboard and blanks screen. System log tracks users, records idle time, records illegal access attempts. Restrict copying of files. Assign passwords and IDs to users. Absolute disk I/O control.

## Multisafe

EliaShim Microcomputers

1799-022

Security system provides data encryption, audit trail log, virus protection, user access privileges, and boot protection. Password management, screen blanking, and keyboard lock. Fifteen levels of encryption.

## Virusafe

EliaShim Microcomputers

1799-017

Virus protection, prevention, detection, and removal. Checks boot sectors, executable and data files for unauthorized modifications. Alerts user to any programs attempting to reside in memory. Removes known viruses such as April 1st, Friday 13th, Ping Pong. Updated frequently.

## Watchdog

Fischer Intl. Systems

1060-001

Password system provides data security. Multiple permission levels. Automatic data encryption, audit trail with reporting capabilities.

## Virex PC

Microcom Software

832-004

Comprehensive solution to the threat of DOS based computer viruses. Detects and repairs files infected by most common viruses. Currently detects and repairs over 200 known viruses. Includes TSR to continuously monitor system to prevent infection. Includes four security levels as well as password protection.

## VirusCide

Parsons Technology

3919-002

Detects and destroys all currently known viruses, a total of 241 boot, file and stealth viruses, including memory resident ones. Scans floppy, hard disk and network drives. Automatic removal of viruses and unattended operation. Restores affected files to normal whenever possible. Options to scan overlay files

## FastLock Plus

Rupp

2103-002

Disk locking program. Includes hard disk password, floppy disk boot protection, unauthorized access attempt log, alarm, disk head park before powerdown, and more.

## Norton Anti-Virus

Symantec

1928-017

Prevent both known and unknown viruses from invading. Works against common viruses such as Jerusalem, Lehigh, Brain, and others. Also detects file irregularities. Runs as a TSR. Virus Clinic detects, repairs, or removes known viruses. 24-hour virus newswire gives information on newly reported viruses.

## AntiVirus

Techmar Corp.

2967-001

Detects and identifies known viruses. Identifies infected files and disks. Restores affected files to original working condition. Immunizes computer against infection. Automatic virus scan at boot. Creates signature files for DOS and bios.

## AntiVirus Plus

Techmar Corp.

2967-002

All functions of AntiVirus. Detects unknown viruses and prevents infection from unknown viruses.

## Disklock

Techmar Corp.

2967-013

General disk access control device. Features 10 character password, limits drive to read or write only. Access or denial to parallel or RS232 port, format prevention, reconstructs disk configuration in case of failure.

## IriCrypt

Techmar Corp.

2967-015

Resident encryption utility that operates transparently to the user. Intercepts each DOS function call for disk reading and writing and

cont'd.

encrypts or decrypts as needed. Pass option option allows encryption with individual passwords. Encryption speed is 4 seconds per 64K at 4.77 Mhz XT.

## VirAway

Techmar Corp.

2967-011

Detects viruses and removes it from memory, boot sector, or files, and reconstructs infected files to working condition. Examines all files including hidden files.

## Vaccine

WorldWide Software

1298-001

Five program toolkit for anti-viral protection. Detects known viruses, warns user of viral activity, notes changes in executables which may point to virus activity, allows for safe testing of new software, and backs up and restores CMOS memory.

## TSRS AND DOS UTILITIES

Useful utilities used at the DOS level, many of which are TSR (Terminate-Stay-Resident) routines.

See also *Menuing Systems and Shells; Operating System Enhancements.*

## Sidekick Plus

Borland

777-009

All features of Sidekick (notepad, calendar, calculator, autodialer, etc.) plus outline processor, file manager, and data transfer utility.

## Instant Recall

Chronologic

2131-001

Personal information manager that can run as TSR in 32K. Manage free-form, structured information: up to 30 pages text for each entry. Access by text, category, priority, person assigned, date; conflict checking; scheduler; telephone dialer; alarm; timer for billing; clipboard; mailing labels; Boolean search; reporting.

## Automate/Anytime

Complementary Solution

3183-001

PC job-scheduling utility that automatically runs other software such as Procomm, Fastback, dBase, or any other DOS application. Executes batch file and keyboard macro jobs. Includes back-up utility and audit log of executed jobs. For single or networked PCs.

## Grafplus

Jewell Technologies

1097-001

Prints the contents of any screen produced by applications on most dot matrix or laser printer. Prints in 256 colors or 64 shades of gray, allows for positioning, sizing, and clipping of the screen images. Creates PCX and TIFF files. Runs as TSR.

## Snap-It

Maxa Corporation

3911-009

Capture DOS text screens with complete conversion to graphics format while maintaining all video and color screen attributes. Allows for use of custom fonts for DOS text screens during conversion. Saves in 1,2,4, or 8 bit PCX or TIF color or grey scale formats. Includes Windows 3.0 version of Snap-it with additional features

## DiskDupe

Micro System Designs

2921-001

Duplicates, formats, and compares 5.25 and 3.5 inch disks in one pass including high density formats. Duplicates up to 200 disks/hours. Uses RELAY to duplicate lots of master disks. Can store images on hard disk. Flags bad disks, batch file automation, pull down menus.

## Info Select

Micrologic

2129-003

Memory resident utility gives instant access to up to 64,000 items of information like plans, notes, lists, actions, contacts, ideas, more. Includes hypertext, fast sort, line drawing, date tickler, dialer, search.

## Bootcon

Modular Software Systems

2113-001

Helps resolve software conflicts by allowing up to 26 different configurations to be defined in CONFIG.SYS and AUTOEXEC.BAT files. No need to swap or edit computer configuration files; select configuration from menu during each boot.

## AutoMight

Pendulum Group

1181-002

Event processor that executes any program or utility unattended at a pre-scheduled date and time. Stores 8 time slots of up to 210 keystrokes each. Uses less than 8K memory.

## View It

V Communications

924-009

File viewer capable of showing up to 16 times the information on one screen. Screen size zoomable outward to select up to 160 columns/100 lines with super VGA cards. Dual on-screen windows facilitate viewing 2 documents of any size. Mouse support.

Requires EGA or VGA.





## Time To Introduce A Colorful New Species...

Evolution is the product of competition in a changing world. Meet COTERM/240. A new breed from Coefficient Systems, the company that first introduced DEC terminal emulation for IBM PCs.

COTERM/240 builds on the proven design features that have distinguished Coefficient's emulation software since 1981. You've come to expect our high level of reliability and precision. COTERM/240 elevates these standards to a new level. You'll also recognize the intuitive, straightforward user interface that makes our products known the world over.

With COTERM/240, you get to choose 16 colors from the full SuperVGA palette of over 256,000. We deliver high-resolution VT240/VT340

ReGIS and Tektronix 4010/4014 graphics with a display speed that leaves DEC terminals somewhere back in the Ice Age. That's evolution.

What has remained constant is Coefficient's strict design standards. When COTERM/240 displays graphics on your VGA or Super VGA adapter, the picture we paint is identical, pixel-for-pixel, to your DEC terminal display. That's precision.

The Coefficient reliability factor means that you can look to the future with confidence. COTERM takes you into the 1990s with full support for network and asynchronous communications, for more than 100 models of dot-matrix and laser printers, for all popular EGA, VGA and SuperVGA

display adapters, and full compatibility with Windows 3.0.

COTERM's integrated multitasking capability means that your file transfers can continue in the background while you make productive use of your PC application programs in the foreground. COTERM's Expanded Memory Storage and Memory Release give those other applications the RAM they need to let you get the job done.

Over 100,000 users worldwide have chosen COTERM for their DEC and Tektronix terminal emulation. Perhaps it's time you did too. Call us and find out about COTERM/240.



# Coefficient

Call us toll-free at  
**(800) 833-4220.**



**Introducing**

# DR. SWITCH-ASE™

## Dbase Power at the Touch of a Key

Have you ever wished you could press a key and have your 500K Clipper® application pop-up on top of a word processor, spreadsheet or communications program? Your wish has just come true! Black & White International, Inc. is proud to present Dr. Switch-ASE™, the Application Swapping Extensions for Clipper. Dr. Switch-ASE turns any Clipper compiled application into a 13K RAM resident (TSR) program.

### Clipper TSR's, easy as ASE!

Take your largest application, add a few lines of code and link in the Dr. Switch-ASE library. Make a call to the DRLOAD() function and presto! Your application is now available at the touch of a key. Pop it up on top of DOS, Lotus 1-2-3®, WordPerfect®, or another Clipper application. Does all of this sound too good to be true? Well it is true and here's the code to prove it:

[Perform any initialization needed before going to DOS resident]

```
af10 __key = - 39
DO TSR WITH "","0",""
```

[Your code goes here]

PROCEDURE TSR

PARAMETERS program, line, input

IF DRACTIVE()

DRSWAP()

ELSE

SET KEY af10 \_\_key TO TSR

command = ""

drive \_\_path = "Y:\USERS\USER6\TEMP"

paste \_\_file = "Y:\USERS\USER6\CLIPBRD.TXT"

ram = 640

hotkey = "{ALT}{F10}"

paste \_\_key = "{ALT}P"

paste \_\_mode = 1

ems = .T.

xms = .T.

timeout = 0

SAVE SCREEN TO your \_\_scr

CLEAR SCREEN

AFFIX(paste \_\_file,paste \_\_key,paste \_\_mode

DRLOAD(command,drive \_\_path, ram,hotkey,

ems,xms,timeout)

RESTORE SCREEN FROM your \_\_scr

ENDIF

RETURN

### Paste data into any application!

Use the data handling and filtering capabilities of Clipper to generate the required data. Call the Doctor's powerful AFFIX() function to paste it into any program. The extremely flexible AFFIX() function allows the pasting of data in various formats. Take your pick of word wrap format for word processors, row or column format for spreadsheets or create your own format.



### No assembly required!

With Dr. Switch-ASE you don't have to be an Assembly language whiz or a C code maven to create TSR's. The Doctor takes care of all the dirty work. With just a few lines of Clipper code you can turn your largest applications into a TSR in minutes. Dr. Switch-ASE supports both Expanded and Extended memory and is fully network compatible.

So, when you need Dbase power at the touch of a key, call on Dr. Switch-ASE!

**The Doctor is in.**

**CALL AND PLACE  
YOUR ORDER TODAY!  
212-787-6633**

**DR. SWITCH-ASE™**

**List Price \$180 PS Price \$146**

**Also available:**

dBASE III PLUS®, dBASE IV®, FoxBASE +® and  
FoxPRO™ versions of Dr. Switch-ASE



**Black & White International Inc.**

P.O. Box 1040

Planetarium Station

New York, NY 10024-0541

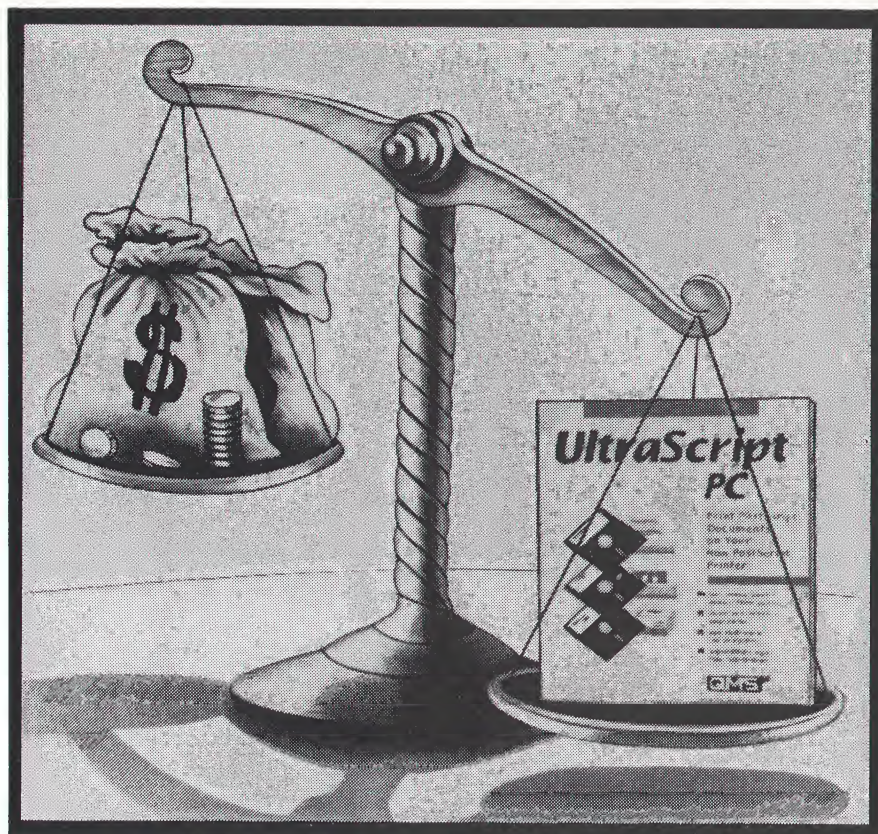
\*Plus Shipping/Handling: U.S. orders add \$6.00 for 2nd Day Air, \$3.00 for Ground. Canadian and Foreign orders add \$8.00. COD add \$3.50. NY residents add sales tax. All payments U.S. funds/ U.S. Banks only.

Dr. Switch, Dr. Switch /ASE, Dr. Switch OnCall and Dr. Switch TSRM are trademarks of Black & White International, Inc. All others are trademarks or registered trademarks of their respective holders.

†Includes royalty free runtime version



# Why Spend Thousands...



## When you can have PostScript® for only \$195.

Now with UltraScript®, get the same licensed typefaces used in Adobe PostScript language-based printing and typesetting systems, all for only \$195.

Print transparently from within PostScript applications using virtually any dot matrix, ink jet, or laser printer.\*

Enlarge, reduce, rotate, outline, shadow, crop, shade, halftone and pattern fill both text and graphics and print them all on your non PostScript printer with UltraScript.

Save documents as TIFF and PCX files with the PostScript language to TIFF/PCX file conversion feature.

### FONTS:

UltraScript PC has 25 resident fonts with a retail price of \$195.

UltraScript PC Plus has a total of 47 resident fonts with a retail price of \$445.

### SOFTWARE SUPPORTED:

UltraScript PC works with all PC-DOS and MS-DOS based software programs that output PostScript files such as: Aldus PageMaker, Microsoft Word, Microsoft Windows, Xerox Ventura Publisher, WordPerfect, Quatro, plus many others.

## CALL TOLL FREE: 800-845-4843



FAX: 619-738-6637

346 STATE PLACE, ESCONDIDO, CA 92029-1365

PM WARE, is the sole manufacturer, and distributor for QMS's UltraScript PC and UltraScript Mac.

\*Laser printers must have 1 meg of memory for 300 DPI output.

All product names listed are trademarks or registered trademarks of their respective companies.



## BUSINESS APPLICATIONS

Application software, other than spreadsheets, word processors, and project managers, for business use.  
See also *Application Modules with Source; Project Managers; Spreadsheets; Word Processors.*

**Action Plus****Action Plus Software**

3220-001

495

199

Contact, sales, time, & information management. Invoicing, inventory, graphics, E-mail, speed-dialer, word processing with mail merge. Goals & projects planning, expense tracking, calendaring, accounts receivable, serial number tracking.

**Org Plus Advanced****Banner Blue**

2071-003

99

79

Adds ability to alter charts to capabilities of Org Plus. Draw horizontal/vertical lines, enhance text, and add boxes and notes.

**OnTime Software****Campbell Services**

3676-001

70

70

OnTime is a lifetime calendar, to-do list manager, and complete remembering system. 15K of memory when run as TSR. Communicates time availability and conflicts.

**AccuMail****Group 1 Software**

1566-011

795

679

Correct faulty addresses on mailing lists eliminating costly undeliverables. Save postage by attaching Carrier Route and ZIP+4 Codes. One state data base unit included. Quarterly updates available.

**Arclist****Group 1 Software**

1566-001

695

635

Dbase file merge/purge and mailing list management software. Presorting, list testing, recognition of duplicates and near duplicates. Import/export ASCII and Dbase files. Label design, list reports, data security, form letter generator, postal bar-coding.

**Arclist ZIP/City Database****Group 1 Software**

1566-009

49

49

Database containing every city and town in the U.S. Used to automatically enter the city and state when the zipcode is entered. Requires Arclist or Enter Only.

**Dupe Eliminator****Group 1 Software**

1566-003

149

139

Menu driven utility to eliminate duplicate names in mailing list. Unlimited capacity. Supports Arclist, ASCII delimited, ASCII fixed field, dBASE II, III+, IV, many other formats. Selects duplicates based on exact or near matches (phonetic checking).

## CAD/CAM

Computer-Aided Design and Computer-Aided Manufacturing: graphics-based tools for industry.  
See also *Mathematics and Statistics Applications; Image, Sound, and CD Databases; Presentation Graphics; Video Hardware.*

**Design Cad 3D****American Small Bus. Comp.**

2086-002

400

359

CAD system features complex extrusions; linear, scalar, and circular blending of surfaces; shading; cross-sectioning; complex sweeps and translations; and Boolean operations. Supports most popular digitizers and mice.

**Generic CADD Level 3****Generic Software**

2790-006

395

360

CAD and drafting program provides editing features like move, copy, mirror, rotate, etc. Zoom to add detail. Organize up to 256 layers. Includes tools like bezier curves, radial copying for fast copies, dynamic dragging to preview components. Create macros for frequently used commands.

## CONTACT MANAGEMENT

Applications that organize, report, and analyses personal and business information.

**Tracker Five****313R/E Ltd.**

3244-008

395

249

Personal Contact Management System that allows users to find all vital information on a client. Find clients by using definable fields, first name, last name, company name, zip code, product, etc. Includes standard and designable reports, mail merge, appointment manager, to do list, and notepads.

**SCROLADEx****Abacus Associates**

2825-001

45

40

Manage addresses, phone numbers, notes, appointments, calendar, mailing lists, company contacts, autodial, pop-up with hotkey, more.

**GoldMine****ELAN Software**

3904-001

295

265

General purpose business tool. Performs history tracking, maintain notes on contacts, activity scheduling, mail/merge lists, auto-dialing, message taking, unlimited form letters, calander, and more. Fully network ready. Multiuser licenses available.

## DESKTOP PUBLISHING AND TEXT FORMATTING

Software for typesetting and page layout. Gives a professional appearance to documentation and publications.  
See also *Word Processors and Outliners; Editors; Data File Reporting; PostScript.*

**VP to the Max****Aristo Cad Inc.**

1434-006

199

179

Spell checker, thesaurus, search/replace, and style sheet viewing utility that works directly within Ventura Publisher.

**dbPUBLISHER Professional****Digital Composition**

1739-003

695

549

Database publishing program. Reads major database, word processing, graphics, and spreadsheet files and directly produces typeset-quality output. Produce applications for distribution, which can generate reports but not modify format. Produce bar codes, tables, directories, etc. to HP, PostScript, Epson devices.

Unlimited runtime to run applications available.

**dbPUBLISHER for Ventura****Digital Composition**

1739-007

249

179

Add-on to Ventura with the same report generation features of dbPUBLISHER. Hot link to over 60 data file formats, including dBASE, R:BASE, Paradox, Lotus, memo, note, ASCII, comma, SYLK, DIF, WordPerfect, etc. Speed style editor tags and flows data into Ventura.

**InSet****Inset Systems**

1085-001

149

139

Create graphics with the Inset graphics editor or your own graphics package. These images can then be incorporated into word processing documents on a printer.

**InSet Plus****Inset Systems**

1085-002

249

209

Combination of InSet and HiJaak graphics file format converter by Inset.

**HALO DPE****Media Cybernetics**

86-014

195

159

Desktop publishing program for merging word processing with graphics. Standalone works with 10 page or fewer documents. Can also work with desktop publishers. WYSIWYG operation, 20 type fonts, text at any angle, EMS support. Compatible with many graphics displays, mice, printers, scanners.

Requires graphics adapter board.

**PC TeX****Personal TeX**

1608-001

249

229

Sophisticated text formatting system for general and foreign text, math, tables, and technical. Advanced character placement algorithms, superior control language. Full implementation of Knuth's TeX. Includes Plain, Vanilla, LaTeX, BIBTeX, AMS-TeX, tutorial.

**Ventura Professional****Xerox**

1934-002

595

499

Add-on for Ventura Publisher includes equations, tables, vertical justification, and cross referencing. Supports EMS.

**Ventura Publisher****Xerox**

1934-007

895

795

Professional quality desktop publishing system. Interface to Lotus, AutoCAD, GEM, and PC Paintbrush. Editions for Windows, DOS/GEM, OS/2, Macintosh.

## FORM APPLICATIONS AND UTILITIES

Applications used to generate business forms such as tax forms, purchase orders, labels, and others.

**Form Tools Gold****Bloc Publishing**

1105-004

100

89

Forms design tool. Creates forms of any size; use horizontal or vertical text; variable type sizes and styles; WYSIWYG display; graphic and math symbols; shades, patterns, and borders; edit up to four forms at once; revision history database; and merges data from dBASE, DIF, or ASCII files.

**PerFORM Designer & Filler****Delrina**

2093-001

149

119

Powerful electronic form processor for designing, filling in and maintaining customized business forms. Use design tools. Fill in forms with information from databases, graphic images, text files. Print forms as displayed on screen or print entered data on preprinted forms.

**PerForm Pro****Delrina**

2093-009

495

395

Windows form and information processor. Drawing tools, import scanned graphic files, electronic signatures, password and form locking for added security. Supports TIFF, PCX, EPS, and more. Support for laser and dot matrix printers. Save to dBASE or ASCII files.



## InSet

### CAPTURES

graphics & text screens - for software documentation

### EDITS

graphics images - with boxes, arrows, text, color

### INTEGRATES

graphics & text - in your text editor or word processor

InSet lets you insert images into documents, preview graphics imbedded in text, and edit images to suit your needs. InSet's graphics editor can draw arrows to highlight a screen menu, add text to a drawing, enhance graphics with boxes or circles, even rotate, scale, magnify, invert, and copy your images.

## HiJaak 2.0 New Release!

### CAPTURES

graphics & text screens plus LaserJet output

### CONVERTS

files between 46 graphics formats

### DELIVERS

device-independent PostScript  
from text screen shots

New features include 5K pop-up for capture or conversion, many new raster and vector formats, and support for more than 20 fax devices.

For Information Call:  
800-828-8088

**InSet Systems**  
71 Commerce Drive  
Brookfield, CT 06804-3405

## BBROWSE C Code Browser for BRIEF®

NOW from within BRIEF® you can navigate through, view and print:

- references to any symbol(s)
- definitions of any symbol(s)
- function call trees (all functions which a named functions calls)
- function inverted call trees (all functions which call a named function)

Speedy navigation of multiple-file applications is one of the strengths of the BBROWSE package. Simply selecting a line in a report (even in the Calltree) will retrieve the appropriate source file and place the cursor on the reference/definition line.

BBROWSE uses the database created by Microsoft® C 6.0, providing you with the REAL view of what is going on inside your code. Unlike stand-alone source code analyzers, the information you see with BBROWSE is an EXACT representation of your code.

The "Symbol details" report is available for each symbol. This report includes: definition(s), references, which functions use the symbol, and which other symbols use this symbol.

All reports can be saved to files and printed from within BRIEF®.

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3143 W. 12th Avenue Court Broomfield, CO 80020

## DATA COMPRESSION LIBRARIES™

PKWARE's® Data Compression Libraries™ allow software developers to add data compression technology to software applications. The application program controls all the input and output of data allowing data to be compressed or extracted to or from any device or area of memory.

- All Purpose Data Compression Algorithm Compresses Ascii or Binary Data Quickly with similar compression achieved by the popular **PKZIP** software, however the format used by the compression routine is completely generic and not specific to the PKZIP file format.
- Application Controlled I/O and memory allocation for extreme flexibility.
- Adjustable Dictionary Size allows software to be fine tuned for Maximum Size or Speed.
- Approximately 35K memory needed for Compression, 12K memory needed for Extraction.
- Compatible with most popular Languages: C, C++, Pascal, Assembly, Basic, Clipper, Etc.
- Works with any 80x86 family CPU in real or protected mode. \$295.00
- No runtime royalties.

## RUNNING OUT OF EXPENSIVE DISK SPACE?

**PKZIP** can help! **PKZIP** compresses your files to free up disk space and reduce modem transfer time. You can compress a single file or entire directory structures with a single command. Compressed files can be quickly returned to their normal size with **PKUNZIP**

Software developers can reduce the number of diskettes needed to distribute their product by using **PKZIP**. Call for Distribution License information.

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(414) 354-8699  
Fax (414) 354-8559



## MATHEMATICS AND STATISTICS

Standalone mathematical and statistical tools which allow you to work with formulas and statistical distributions.

See also Coprocessors; Mathematical Libraries.

## GRAFTOOL

## 3-D Visions

1987-001

495

475

Statistical graphing program features 13 plot types for both 2D and 3D scientific graphing. Menu-driven access to curve fitting, contouring, log scaling, rotation, and scaling. Plots up to 268 million data points; 65,000 curves. Built-in scientific spreadsheet. New screen interface gives quick access to features.

## Gauss

## Aptech Systems

1176-002

495

495

Math and statistical system. Modular language. Built-in functions written in assembly for speed and accuracy. Matrices, modeling, graphics, more. Versions available for 80286 or 80386.

## GRAPHER

## Golden Software

1503-001

199

179

Menu-driven X-Y or scatter graphs, hi-low-close or text charts. Linear or log axes, optional grid lines and scaling, symbols and fonts from over 17 character sets, and many other options. Input from keyboard or file (worksheet or ASCII). Output to printers, plotters, screen, or to PIC, HPGL, and DXF files.

## SURFER

## Golden Software

1503-003

499

469

Menu-driven contour and surface plots from three dimensional data or functions. Grid blanking, boundary line representations, axis labelling, and other options. Input from keyboard or file (worksheet or ASCII). Output to printers, plotters, screen, or to PIC, HPGL, and DXF files.

## Sigma Plot

## Jandel Scientific

1485-002

495

495

Statistical graphing program features row/column transpositions, block editing operations, missing data handling, 8 plot types, flexible plot scales and tick mark/axis options, grids, error bars, mathematical transforms and descriptive statistics, curve fitting, and more. Users can draw on and modify graph.

## MathCAD

## MathSoft

425-001

495

469

Mathematical analysis tool that integrates equations, text and graphics in a single, live document. Includes built in functions, matrices, statistics and much more.

## PC-MATLAB

## Mathworks

879-001

695

695

Interactive numeric computation package with 2-D and 3-D graphics for scientific and engineering applications. Includes high level, matrix-oriented language. Can call external C and FORTRAN routines. Optional Toolboxes add functions for signal processing, control system design, modelling, and more.

Version for 386 available. Requires Math Coprocessor.

## Derive, a Math Assistant

## Soft Warehouse

140-006

250

239

System to symbolically solve algebraic, trigonometric, and Calculus problems. Includes high precision arithmetic, numerical and analytic equation solving, quadrature, 2-D and 3-D plotting, matrix algebra and calculus, 2-D display of equations, and menu-driven interface. Programming capabilities now available.

## SPSS/PC+ Advanced Stats

## SPSS

207-001

395

349

Add-on to SPSS/PC+ that includes advanced procedures for factoring, clustering, non-linear and logistic regression, variance, reliability and more.

## SPSS/PC+ Base

## SPSS

207-017

195

189

Provides data management, analysis, and presentation. Statistical procedures include cross tabulations, descriptives, frequencies, means and ranks, exploratory data analysis. Data management facilities. Imports, exports Lotus 1-2-3, dBase files.

## SPSS/PC+ Statistics

## SPSS

207-018

395

349

SPSS/PC+ add-on extends statistical capabilities of SPSS/PC+ Base. Procedures include cluster, factor, reliability, t-tests, regression, and ANOVA.

Requires SPSS/PC+ Base.

## StatGraphics

## STSC

131-005

995

819

Complete interactive statistical graphics system. Performs over 250 statistical and analytical procedures with applications in engineering, quality control, R&D, marketing, finance, and physical and social sciences. Fully integrated with presentation quality 3D graphics.

## SYSTAT

## Systat

458-002

895

839

Statistics, graphics and data management package that is completely menu or command-driven. Basic and nonparametric stats, covariance, cont'd.

ANOVA/MANOVA, scaling, cluster analysis, time series, nonlinear estimation, more. Bivariate, box, contour plots; bar, pie charts; smoothing, more. Import/export Lotus, etc.

## Mathematica 386

## Wolfram

1394-001

695

569

General system for numerical, symbolic, and graphical computation intended for all users of mathematics: scientists, engineers, students, analysts. Produces 2D and 3D PostScript graphics. Does algebra and calculus. High-level programming language and user interface which supports interactive textbooks.

Requires 386. Available for 386/387, 386/Weitek.

## Mathematica 386/387

## Wolfram

1394-004

995

959

Similar to basic Mathematica but takes advantage of features of the 80386 and 80387 processors.

Requires 80287 or 80387 math coprocessor.

## Mathematica 386/Weitek

## Wolfram

1394-005

1,295

1,295

Similar to basic Mathematica but takes advantage of features of the 80386 and Weitek 1167/3167 processors.

Requires Weitek 1167 or 3167 math coprocessor.

## PAINTING AND DRAWING PACKAGES

Applications used to produce illustrations and drawings.

## Dr. HALO III

## Media Cybernetics

86-001

140

119

Menu-driven paint program and raster editor. Create and manipulate images. Virtual page, scaling, curve fitting, rotation, color dithering, aspect ratio correction, multi-board grab, palette editing, more. Slide presentation/batch printing from CUT/PIC files. Image grabber for bit-mapped programs.

Requires graphics adaptor.

## ColorIX

## RIX SoftWorks

2737-003

199

189

Paint program for manipulating 256 colors from palette of 256,000. No icons; pop-up, English speaking menus. Dual brush support; five brush-type selectors; full screen editing; dynamic, real-time zoom; supports eight high resolution, 256-color VGA modes; palette creation and manipulation tools; anti-aliasing; screen capture.

## PC Paintbrush IV Plus

## ZSoft

833-004

199

149

Adds scanner support to capabilities of PC Paintbrush. Can add color to black and white scanned images, and import .PIC images from applications. Also adds color separation, outline fonts, and filters.

## Publisher's Paintbrush

## ZSoft

833-002

285

269

Paint program provides 300 DPI editing for desktop publishing. Zooms out to full-page editing and zooms in to edit individual pixels. Can use bitmapped, stroke, or curvilinear fonts with leading, kerning, and precise style control. Supports most scanners and a large variety of displays and printers. Imports .PIC images.

## PRESENTATION GRAPHICS

Graphics-based tools for improving reports, drawings, slides, and other presentation media. Also paint and drawing packages.

See also Graphics Libraries; Image, Sound, and CD Databases; Print Libraries and Bar Codes; PostScript; Video Hardware; Video Tools; Digitizers; Presentation Hardware.

## FoxGraph

## Fox Software

392-014

295

249

Graphics package, imports DIF, SYLK, ASCII, ASC, WKS, .WK1, .3DT, and SDF; exports ASCII and .3DT; can save graphs in .PCX, TIFF, .IMG, and .SCR formats; calculated values, 16 2-D and 33 3-D graph types; customized 3-D graphics; complete color control.

## Harvard Graphics

## Software Publishing

442-005

495

399

Business presentation package that creates 21 chart types with extensive formatting options. ScreenShow presentation and advanced drawing capabilities. Reads Lotus 1-2-3, Symphony, CGM, and ASCII files; exports PostScript, HPGL, LL, and CGM files. Extensive printer, plotter, film recorder, mouse, graphics card support.

Includes drawing package.

## PROJECT MANAGERS

Packages for scheduling, coordinating, and analyzing a wide range of projects. See also TSR's and DOS Utilities.

## Project Workbench

## Applied Business

2643-003

1,525

1,249

Automatically outlines projects; offers six time scales; global, project, and resource calendars; creates optimum project schedules. Resource Spreadsheet dynamically displays and updates resource data; supports multi- and sub- projects; Gantt/network diagrams; context-sensitive help; gateway to dBASE III Plus; more.



# UP TO NOW OBJECTS WERE MOSTLY TALK. NOW THEY'RE HANDS-ON.

Everybody has been talking about objects. But until now, you had to be a C++ programmer with a big budget to get your hands on them.

Today, information is power. And the personal computer is enabling a transition of that power from computer professionals to "information professionals" whose primary expertise is in engineering, management, finance and production.

Until now, the software tools available to information professionals have been based on the notion of rows and columns, rather than on the more natural and powerful idea of objects. This meant these new professionals were left with useful information in a form they couldn't use.

## Introducing Mind's Eye. A New Tool For A New Age.

Mind's Eye, the first object-based information management software system allows you to integrate the separate functions of business management principles, financial modeling, graphics and engineering. And Mind's Eye requires no sophistication in a complex computer language.

Instead of relying solely on cumbersome numerical data bases, Mind's Eye lets you translate that jumble of information into recognizable objects which link all the components graphically. So you can see issues and solutions in a comprehensive and coherent overview. Just the way your mind does.

Look at what Peter Coffee said in the March 4th issue of PC Week:

*"Mind's Eye is a superior decision-support tool for vertical markets and in-house applications. Users will reap rich returns from their graphics hardware investment. The Mind's Eye screen provides a wealth of interactive feedback, far more than typical mouse/menu designs."*

## What You Perceive You Can Create.

With the simple point and click of a mouse, Mind's Eye allows you to create a system of objects quickly and easily. Then with its simple, yet powerfully articulate structure, you can describe their properties and relationships.

And the objects you create can be visually amplified with drawings. Pictures.

Or both.

You can also include free-form verbal descriptions of each object. And assemble these

complex data structures into an application for those who maintain the database and derive information and analyses from it.

Mind's Eye allows you to create unlimited "what if" management models in business, manufacturing, engineering, production, quality management and sales beforehand. So you can test your vision. Change variables and analyze those changes. And control down the road what you have in mind now.

But the best thing about Mind's Eye is its simplicity. In an age of increasing complexity, Mind's Eye lets you get back to basics. With its ability to seamlessly link large amounts of complex data into clear, easily accessed graphic objects, pulldown menus and easy-to-read project trees, you'll be able to use your computer the way you should have all along.

## Who We Are Depends On Who You Are.

Because Mind's Eye is an extension of the way you personally retrieve, use and manage data, it can be quickly configured to your individual thought processes and tasks, informational needs, management style and corporate or business requirements. Whether you're a design engineer or system engineer or involved in financial modeling, project management, production, process control, quality control or LAN design, there are no limits to Mind's Eye's virtuosity. Or yours.

## Our Price Is Something You Won't Object To.

Mind's Eye can now run your PC the way you want it to. At a price that's readily affordable — only \$695.00.

We're so confident that Mind's Eye is everything we say it is, we're offering you the complete Mind's Eye software package — not a demo disk — for a 30 DAY FREE TRIAL.

Call us now at:  
800-622-6746

Give us your VISA or MasterCard number and we'll send out Mind's Eye right away. Keep it and we'll bill your charge card. Return it within 30 days, and you're free and clear.

Mind's Eye is IBM AT/PS-2 compatible (80286/80386/80486).  
640 K RAM minimum required,  
1 MB or more recommended.  
EGA/VGA/8514A monitor.  
PCDOS/MSDOS 3.X  
or higher required.



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**InstaPlan Standard**

**InstaPlan** 1657-007  
Includes Tracker, NotePad, and PERT options. Classic PERT option prints network diagram of InstaPlan project. Activities are drawn as boxes containing selected data, with connecting lines showing schedule connections.

**Agenda**

**Lotus** 1917-059  
Project planning, brainstorming, or daily organization. Agenda creates a structure as data is entered. Lets you create and modify an unlimited number of data views. Include notes up to 10K on any item. Supports due dates.

**Project Scheduler 5**

**Scitor** 1435-004  
Fast, graphic project manager. Intuitive user interface allows efficient use of time, quick learning. All popular printers and displays supported.

**TimeSheet Professional**

**Software Partners** 1681-001  
Time/expense tracker lets you track time and projects for clients and employees. Generate reports for management or invoices for customers. Corporate workgroups can easily consolidate project time, expense, and budget data. Complements a project manager. Network versions available.

**Harvard Project Manager**

**Software Publishing** 442-001  
Fast Track offers quick introduction to package. Work Breakdown Outline identifies project tasks in standard outline format. Six planning methods: Fast Track, Work Breakdown Outline, PERT chart, Gantt chart, task list. PERT chart shows task network; Gantt chart shows timing.

**Timeline**

**Symantec** 1928-004  
Project management software. Routines for scheduling, cost computing, and reporting. Interface to popular spreadsheets and databases.

**SPREADSHEETS AND INTEGRATED PACKAGES**

A spreadsheet is a basic columnar accounting tool. Integrated packages combine spreadsheets with databases, word processors, and other tools.  
*See also Database Management Systems; Accounting.*

**BALER**

**Baler Software** 808-002  
Spreadsheet compiler turns .WK1 worksheets into stand-alone executables. Supports coprocessor, all Lotus "@" functions and macros. Add startup screen, choose from 4 styles of customized menus, control borders/colors on screen, add password security, design context-sensitive help. Ten times faster than previous versions.

**Baler XE**

**Baler Software** 808-004  
Extended edition of Baler. Allows linking of external routines. Includes extended macro language and menu driven commands. Supports Microsoft C, BASIC, Fortran, Pascal, or Assembler.

**Quattro Pro**

**Borland** 777-069  
Fully 1-2-3 compatible WYSIWYG spreadsheet, uses advanced memory manager to load larger spreadsheets into memory. Also uses expanded memory. Includes 3D worksheets, presentation quality graphics, large worksheet sizes, slide-show transition and sound effects, banner printing. Mouse support. Network ready.

**Quattro Pro LAN**

**Borland** 777-135  
Adds one additional user to Quattro Pro.

**SuperCalc5**

**Computer Associates** 1409-005  
Lotus 1-2-3 compatible spreadsheet with spreadsheet linking, auditing, graphics, high-quality reports, network and LIM/EMS support, undo, sideways printing, macro learn mode.

**R&R Worksheet Report Wri.**

**Concentric Data** 308-005  
Create, modify, or print WYSIWYG reports from Lotus 1-2-3 or Symphony worksheets. Uses Lotus-style menus and commands. Send reports to printer, ASCII files, or Lotus files for further processing.

**1-2-3 Version 3.1**

**Lotus** 1917-015  
Simpler and more powerful graphics. Display both current graph and spreadsheet in splitscreen. Multipage feature. View three pages at once. Query and extract data from dBASE III files. Many other new features, uses extended memory, allows background printing.  
*Requires 80x86 machine with at least 1MB accessible RAM.*

**1-2-3 version 2.2**

**Lotus** 1917-018  
Has all the features of 1-2-3 (version 3.0) except the multipage feature. Positioned for less demanding needs and able to run on 8088 systems with 640K.

**1-2-3 Version 2.01**

**Lotus** 1917-001  
The original 1-2-3.

**Freelance Plus**

**Lotus** 1917-003  
Business graphics for 1-2-3 data. Retrieve data from 1-2-3 via live link; enhance 1-2-3 charts with 3D effects, text charts, conceptual diagrams, and other types of graphics.

**Symphony**

**Lotus** 1917-002  
Integrated package with automatic active link among all its applications.

Includes word processor, graphics program, spreadsheet based on 1-2-3, database, and communications functions. Reports can be printed using many formatting and printing options, including laser printer support. Includes Allways.

**Works**

**Microsoft** 502-061  
Integrated program offers word processing, database, spreadsheet, and communications. Easy to learn and use.

**Compile 1-2-C**

**Resource Analysis Intl.** 1008-001  
Translates Lotus WK1 and WKS worksheets into C-language source files, then compiles the source into EXE files. Retains features of original spreadsheet program, including macros, commands, cursor movements, screen display, and more. Also security mode and hidden macros and formulas. Supports math co-processors.

**WORD PROCESSORS AND OUTLINERS**

Word processors, outline generators, thought processors, and other writing and organizational aids.  
*See also Desktop Publishing and Text Formatting; Editors; Print Control and Outliners; Presentation Graphics.*

**KO-PILOT**

**Insight Resource** 2736-001  
Keystroke-by-keystroke guidance for every WordPerfect feature. Allows use without WordPerfect manual or function keys. Includes LEARNKWIK which trains users in WordPerfect as they work. Training is immediate, as-needed, and repeatable.  
*Specify WordPerfect 5.0 or 5.1.*

**Word 5.5**

**Microsoft** 502-157  
Word processor with pull-down menus, dialog boxes, scroll bars, mouse support, etc. Network and OS/2 support built in, along with support for over 300 printers, spell checker, thesaurus, print preview, graphics import, links to spreadsheet programs, style sheets, glossaries, word count, more.

**Writer's Reference**

**Parsons Technology** 3919-005  
Online style guide and almanac. Suggests tips for organizing ideas before committing them to paper. Explains proper use of grammar. Shows style options for formatting. Illustrates common word choice errors and suggests alternatives.

**Grammatik IV**

**Reference Software** 1253-003  
Grammar correction utility shows errors in context, allows immediate correction of errors, runs directly inside selected word processors, mouse support, hundreds of grammar and style rules, user customizable and comprehensive spell checking.  
*DOS, Windows, network, Mac, Unix versions available.*

**WordPerfect**

**WordPerfect** 1933-007  
Text/graphics integration, tables, pull-down menus, mouse support, equation editor, spreadsheet links, labels, mail merge, context-sensitive help, spell checker/thesaurus, macros, dictionary-based hyphenation, and toll-free support.

**WordStar 2000**

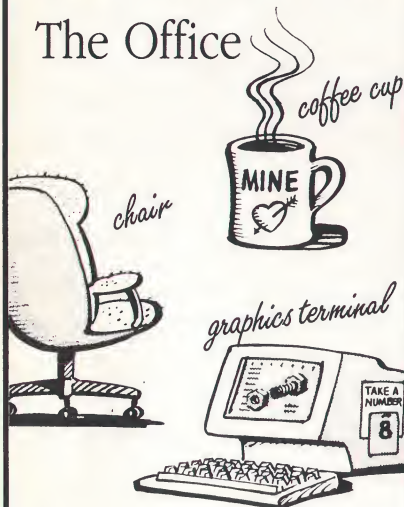
**WordStar International** 840-002  
Word-processor features advanced page preview and graphics program to insert charts, graphs, pictures, and spreadsheet files into documents. Includes various fonts, spell checker with phonetic look-up, thesaurus, key macros. Supports many printers. Utilities for mailing lists, communications, file conversion.

**WordStar 6.0**

**WordStar International** 840-005  
Similar to Wordstar 2000 with additional features. Supports scalable font printers. Includes multiple symbol sets, powerful style sheets.



## Three Things You Shouldn't Have To Share At The Office



In the workplace you would never think of sharing your mug or chair. So why are you running down the hall to find out if there is a terminal available for your mainframe graphics applications? With TGRAF software and your desktop computer there's no reason to ever share a terminal; you can now have a powerful graphics terminal on your desk, inexpensively.

TGRAF accurately duplicates a Tektronix graphics terminal without sacrificing terminal functionality. Now mainframe graphics power is available for your PC, PS/2, Macintosh II, or workstation in RS-232 or networked computer environments, for only a fraction of what a terminal would cost.

TGRAF's comprehensive Tektronix terminal emulation and Grafpoint's superior customer support, puts the terminal sharing blues behind you forever. Call Grafpoint for the name of your local distributor and order a no-risk 30-day evaluation copy.

*Current TGRAF users call us for information on how to upgrade to our latest product - TGRAF-4200*

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# ELECTRONIC CATALOG NETWORK



### COMMUNICATIONS: APPLICATIONS

Standalone packages for communication with other computers. See also Terminal Emulators.  
See also *Communications Libraries; Communications: Terminal Emulators.*

<b>PC BLAST</b> Communication Research	1674-001	250	235
Noise-resistant file transfers, scripting, PC remote control, background operation. Emulations include DEC VT220/100/52, Sperry SVT 1220, Data General D461/411/410 /200, Televideo TV 920, Ampex D80, ADM 3A, WYSE 50, HP 2392, and IBM 3101 plus keyboard remapping.			
<b>VistaCOM VII</b> Control Data	2996-003	595	479
Communications package for async, TCP/IP, or DEC net connections. Bi-directional, compressed, and error-protected file transfers. Tek 4107 emulator, script language, key mapping, diagnostics, national character sets, and support for printers, plotters and several LANS.			
<b>ProComm Plus</b> DataStorm Technologies	1056-001	119	99
Communications package with keyboard remapping, powerful script language, automatic dialing directory, context sensitive help, host mode with electronic mail, more. Network version available.			
<b>ProComm Plus Net</b> DataStorm Technologies	1056-004	595	464
Network version of ProComm Plus.			
<b>Crosstalk Mark 4</b> DCA/Crosstalk	1918-002	245	219
Advanced communications package. Supports up to 15 sessions in windows, several terminals and protocols. Programming language for applications development.			
<b>Crosstalk XVI</b> DCA/Crosstalk	1918-003	195	129
Menu- or command-driven communication program that links PCs to other PCs, micros, mainframes, or info service. Route incoming data. Displays data sent and received.			
<b>Remote2</b> DCA/Crosstalk	1918-005	195	139
Remote control program for off-site operation of PC's. 2 parts: R2HOST and R2CALL. Operate R2HOST from R2CALL. Crosstalk, terminal, or emulator. Has call-back feature.			
<b>pcANYWHERE IV HOST</b> DMA	2117-011	129	119
Add additional systems that only need to be hosts.			
<b>pcANYWHERE IV HOST/REMOTE</b> DMA	2117-010	179	159
Control a host PC. Features bi-directional file transfer in background/foreground, VT220 emulation, speeds up to 115bps, automatic graphics translation, call logging/session record and playback, voice/data switching. Can be loaded in higher memory.			
<b>pcANYWHERE IV LAN</b> DMA	2117-015	495	439
Fast, flexible PC-to-PC remote computing across a network, and to/from a network. Remotely control another workstation, transfer files. Ideal for remote file access and user support across, into or out of network. Includes licenses for two nodes.			
<b>pcANYWHERE IV REMOTE</b> DMA	2117-013	99	89
Remote side software only.			
<b>Brooklyn Bridge</b> Fifth Generation	47-007	139	119
Allows a PC or PS/2 to exchange data with another. Use peripherals of or give commands to the remote computer. Rates up to 10K bps.			
<b>Carbon Copy Plus</b> Microcom Software	384-001	199	159
Communications package allows access to remote PCs, supports all popular display adaptors, automatic encryption of data. Emulates VT52, VT100, Televideo 920, and IBM 3101 terminals; XMODEM and Kermit file transfer protocols, Crosstalk XVI compatible script language, scrollable look-back window.			
<b>Relay Gold</b> Microcom Software	2072-003	299	289
Data communications package that allows for communication links with other PCs and mainframes, on-line services, includes high speed file transfers even in background, scripting capabilities. Emulates most popular terminal types and supports most file transfer protocols, modems, and emulation boards.			
<b>Close-up Support</b> Norton-Lambert	1921-010	245	209
Handles remote and automated communications. Full view, control of remote PCs running Close-Up Customer. Share screens/keyboards with network or standalone PCs. Access to DOS, run application programs, cont'd.			

transfer files, enter data, run jobs automatically. Password security, 100% error protection, session record/playback.  
Works with *Close-Up Customer*.

### Takeover SoftKlone

228-005  
Remote control with pull-down menus with keyboard or mouse control. Supports mono, CGA, PS/2 model 30 CGA, EGA, VGA, and Hercules. Passwords, automatic call-back to predefined numbers, session recording, background file transfer with file compression. All functions of Mirror III, includes PRISM comm. programming language.

### Mirror III SoftKlone

228-009  
Asynchronous data communications package compatible with Crosstalk XVI. Includes programming language, popular terminal emulations, popular file transfer protocols, background mode, and more.

### LapLink III Traveling Software

1931-003  
LapLink III lets you transfer files at speeds of over three error free megabytes per minute. You can transfer files using a parallel or serial connection. Select files or entire subdirectories for transfer. LapLink comes complete with both serial and parallel cables.

### Co/Session Triton Technologies

904-001  
Provides dual screen/keyboard capabilities on one PC, session recording and playback, remote network access, unattended remote PC control, password protection, terminal emulation mode, background file transfers, remote printing, mouse and EMS support. Includes host and remote PC programs. Host requires 5K.

### Session/XL Triton Technologies

904-003  
Automates PC-to-PC communications. Scripting and scheduling communication language. Host PC requires SESSION/XL. Each remote requires CO/SESSION.

### COMMUNICATIONS: REMOTE

Software for allowing users on a network to transmit and receive data from other networks or other locations off the network; software for WANs (Wide Area Networks).  
See also *Communications Libraries; Communications: Applications.*

### Paranet Turbo Adlersparre & Associates

3872-001  
File transfer software utility, includes six-foot cable to connect computers via their parallel ports. A data management utility is included to provide on-screen viewing of two directories on different computers, at the same time. Files may be copied, backed up, viewed, or deleted. Included program enhances copy operations.

### NETremote+ Brightwork Development

1254-001  
Access any PC or peripheral on LAN with security, run programs, use all local and network resources, contact other PC in middle of application, extend to remote networks with asynchronous remote access package. Enables access to PC configurations and exercise real-time diagnostics.

### CROSS+CONNECT Cross Communications

2004-025  
Integrated LAN dial-in and dial-out communications software. Modem-sharing combined with Remote Control Communications for Novell and Netbios Networks. Works in background with very low memory. Supports single modem. Versions available for five modems and twenty modems.  
Any Novell or Netbios compatible network.

### LAN+MODEM 1 modem Cross Information

2004-001  
Modem-sharing software for Novell and Netbios Networks. TSR utility allows user to access modem attached to another node. Communications program included, but any INT14 interface program works. Supports single modem, other versions have support for five modems and twenty modems.  
Specify IPX or NETBIOS network.

### LANSight LANSystems

1261-007  
Remote control program for LANs and WANs that provides support personnel with real-time information about hardware and software configuration at remote location. Allows network administrators to view and control any workstation from a PC. Uses 4K.

### COMMUNICATIONS: TERMINAL EMULATORS

Packages for enabling a computer to operate as a terminal of a different type.  
See also *Communications: Applications.*

### EXTRA! Extended for DOS Attachmate Corp.

1523-004  
3270 connectivity software supports a variety of IBM compatible connections including Coax, SDLC, LAN, TIC/DLC, File transfer methods such as SEND/RECEIVE (IND\$FILE), output devices and much more. Uses as little as 44k and takes advantage of EMS memory, allows up to 4 active host sessions at one time.



## With MUXTERM Open the Door to Productivity from Your Desktop PC !

**MUXTERM**, a multi-screen terminal emulator and **STATMUX** built into one, connects your PC to a Unix system. **MUXTERM** provides access to 10 simultaneous Unix applications while running MS-DOS concurrently on the PC.

But **MUXTERM** is more than just a terminal emulator. It allows File Transfer between DOS and Unix; Printers connected to the PC can be accessed from DOS and Unix. **MUXTERM** with its **STATMUX** feature is an inexpensive solution for remote offices.

Get more out of your PC with **MUXTERM**.

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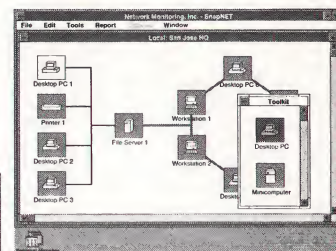
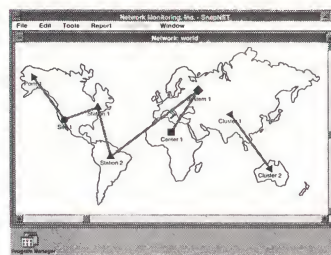
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## SnapNET™ Displays WANs and LANs Worldwide!

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SnapNET, the user-friendly software tool for managing WAN and LAN assets, is now available in three versions. Whether your network is strictly in the U.S., extends through North America, or stretches across the world, SnapNET allows you to build, track and modify worldwide WAN/LAN topological layouts, and create network databases/directories and graphic presentations.

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- North American Version—\$550
- U.S. Version—\$495



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### SCREENIO Screen Manager for COBOL ..... \$400.00

SCREENIO was written specifically for COBOL programmers. You can create and use full screens and windows, redefine keys, specify the tabbing order, modify colors at runtime, utilize integral field validation, and much more. Options are available to import BMS (CICS) or SDA (System/36) panels.

Supports Realia COBOL, IBM COBOL/2, Micro Focus COBOL/2 and Microsoft COBOL 3.0.

### Level 2 Report Writer (RW2) for COBOL ..... \$350.00

Adds a GREAT superset of the ANSI Report Writer feature to COBOL. Makes report program a snap, even when printing on special forms! Supports full font control for all printers.

Supports Realia COBOL, IBM COBOL/2, Micro Focus COBOL/2, and Microsoft COBOL 3.0. MBP.

### COBCLN - COBOL Code Reformatter ..... \$150.00

Reformats COBOL source code for readability and conformance to standards. It won't untangle spaghetti code, but it sure makes it easier to maintain!

### NORCOM Btrieve Starter Kit for COBOL ..... \$150.00

A painless way to implement true multi-user support on LANs. Provides a uniform interface to Btrieve from COBOL, I/O tracing facilities for debugging, support for setting SCREENIO timeouts when records are locked, audit tags on records, and a thorough discussion of our methods.

### NORCOM Date Routines for COBOL ..... \$80.00

A reliable way to do date calculations such as number of days between two dates, day of the week for any date, calculation of future or past dates, age in years given birthdate, date conversions, and more.

— Call NORCOM at (907) 780-6464 or see our listing in this publication —

See product listing in the LIBRARIES section



**Coterm 240****Coefficient System**

493-013

329

309

Emulates VT240/220/100/52, VT340 ReGIS and Tektronix 4010/4014 graphics. Background file transfers, softkey scripting, scrollbar, printer support, connectivity through modems, direct cabling or networks. True 132 column text on graphics adapters through SVGA. Supports several LANs and fully Windows compatible.

**COTERM/220****Coefficient Systems**

493-001

245

205

Emulates VT220/100/101/102/52. Kermit, XMODEM, ASCII, and proprietary protocols. Scrollback buffer, toggle between DOS and screen, soft keys, 132 columns with scrolling, and background file transfer.

**VistaCOM V****Control Data**

2996-009

200

169

Communications product for async, TCP/IP, or DECnet. Has 21 emulations, including: TEK4105, Televideo 925/95/970, VT220. KERMIT, XMODEM, and proprietary file transfer protocols, DOS hot key, diagnostic capability, script language, national character set and LAN support. Also links PC to PC.

**EM4105****Diversified Computer**

2735-009

359

216

Emulates Tektronix 4105 color graphics with some 4017 extensions, 4010/4014, VT640 and DEC VT320/220/100 terminals. Supports 640x480 resolution, displays up to 16 colors. Pan/zoom, mouse support, and high resolution color plotting/printing. Includes all EM320 functions with Novell network support.

Versions for PC/TCP, DecNet, Sun PC/NFS, Net1, 3-COM.

**TGRAF-07****Grafpoint**

3081-001

995

919

Emulates Tektronix 4010/4014/4105/4106/4107/4109 and VT52/VT100/VT102. Menu-oriented setup; DOS hot key; Kermit, XMODEM, ASCII; file save, vector save, pixel save, restore; up to 16 colors; compatible with over 30 high-performance graphics boards; resolution up to 1280x1024; many graphics features; RS-232 or modem. Requires disk drive, supported graphics card (256 colors for Mac). For DOS: minimum of DOS 2.0 and 256K. For Mac: Mac II or Mac SE30, 2M.

**ICE.10****James River Group**

2022-001

295

249

Three programs: pop-up WYSE 60/ANSI/VT100 terminal emulator that allows a concurrent DOS application; DOS/UNIX file transfer utility; and Unix shell that emulates DOS command line while still accepting Unix commands.

**ZSTEM 220****KEA Systems**

912-007

150

135

Adds VT220 support to ZSTEM 100. National/multi-national support, downloadable fonts. Integrated network support.

**ZSTEM 240****KEA Systems**

912-008

295

269

Adds VT240/1 support to VT220. Includes VT340 ReGIS, Tektronix, and pixel graphics support.

**SmarTerm 240****Persoft**

108-008

345

289

Emulates 16-color ReGIS graphics of DEC VT340, VT240, and VT241 graphics terminals; VT220 and VT100 text terminals; and Tektronix 4014 graphics terminal. Includes file transfer, LAT, programmable softkey shortcuts, keyboard remapping, menu-driven interface. Multi-user versions. EGA, CGA, VGA, Hercules, 132 col. Requires asynch I/O board, cabling, 132 column.

**SmarTerm 400****Persoft**

108-009

225

179

Emulates DG's D410, D400, D214, D214, D211, D210, D200, and D100 text terminals. Features include softkey language for automatic log-ons and file transfer, multiple configurations, and host remote control. Supports VGA, EGA, CGA, Hercules, 132 column. Requires asynch I/O board with cabling.

**MuxTerm****Sritek**

5023-001

475

459

Allows connecting a DOS PC to a multi-user host through an RS-232 connection and running multiple UNIX applications simultaneously. Access up to 10 different UNIX applications and concurrently run any non-graphics DOS application by multiplexing up to 16 tty sessions over a single physical connection. Error correction.

**Reflection 1 Plus****Walker Richer & Quinn**

393-001

369

339

Emulates HP 2392A, 700/92 and DEC VT102 terminals. Adds forms caching capability of the HP 2624B, 2394A and 700/94 terminals, and a typeahead buffer. Includes KERMIT, XMODEM, and proprietary file transfers, runs in background, includes script language, is network compatible, and can backup/restore files to/from host.

**Reflection 4****Walker Richer & Quinn**

393-003

299

289

Emulates DEC VT240, VT241, and Tektronix 4014 terminals. Supports VT330 and VT340 graphics for 16 color ReGIS applications. Records sessions, has 8 function keys, transfers files with XMODEM or KERMIT, runs in background, has script language, international features, and keyboard remapping.

**CONNECTIVITY**

Products that provide connectivity solutions such as communications between Unix host machines and IBM mainframes or TCP/IP connections to DOS micros.

**Interdrive****FTP Software**

2692-007

100

89

Provides NFS for PCs. Uses PC/TCP kernel to implement TCP, IP, and UDP networking protocols. Mounts up to four InterDrive filesystems. Implements password checking before allowing access to remote host. Requires PC/TCP and network card.

**PC-Interface DOS Bridge****Locus Computing**

1978-009

235

229

DOS portion of PC-Interface. Supports all features of PC-Interface Server. Emulates VT220 and VT100 terminals. Fully compatible with Microsoft Windows 3.0. Requires PC-Interface Server on UNIX host.

**PC-Interface Server****Locus Computing**

1978-016

350

340

Transparently integrates DOS-based PCs and UNIX systems. Supports virtually unlimited number of PC workstations. Integrates DOS and UNIX files into single file system. Use DOS or UNIX commands to access any file on host. Includes National Language Support for international installations. Non-dedicated UNIX host.

**DATABASE SERVERS**

The heart of the client-server database management functions over the network.

See also Database Management Systems; Network Operating Systems; Languages in the Networks section.

**Faircom Server SU****Faircom**

45-029

49

45

Multi-threaded, transaction processing server can be used alone or linked to application. Features full commit and rollback, complete logging, restart and disaster recovery, passwords, access security, deadlock detection, read/write locks, more. c-tree Plus provides the full client side interface. Versions available for 5, 12, and unlimited users.

**Faircom SQL Server SU****Faircom**

45-017

79

75

Complete ANSI X3.135 1986 level 2 SQL engine coupled with the features in the standard Faircom Server. It provides advanced SQL access to any information managed by the Faircom Server via embedded or interactive SQL calls. c-tree Plus provides the full client side interface and development kit for this SQL server. Versions available for 5, 12, and unlimited users.

**Netware SQL****Novell**

141-020

595

519

Database engine for networked systems. Reduces network traffic by processing data at the server. Also supports databases distributed over multiple servers, SQL security levels, fault tolerance. Supports DOS and OS/2 workstations. Requires NetWare 2.1 and Btrieve 5.0 (or later)

**DIAGNOSTIC AND MONITORING**

Utilities for diagnosing and monitoring performance of basic hardware and software, such as memory, hard disk, and low-level codes.

See also Disk Optimization and Recovery; Debuggers; Cross Development and Embedded Systems.

**View 232****Blaise Computing**

269-028

189

179

Inspect, monitor, and capture data over any asynch communications link. Display data in different formats including ASCII, hex, and mnemonics; store transmitted data on disk; simulation mode and on-line help; includes cable and source code.

**ARC Monitor+****Brightwork Development**

1254-009

295

252

LAN problem/performance analysis. Determine capacity, overload status, graph network activity, test individual PCs for card, cable, or memory failure, set filters to test subset of stations. For use with ARCnet networks.

**E-Monitor****Brightwork Development**

1254-010

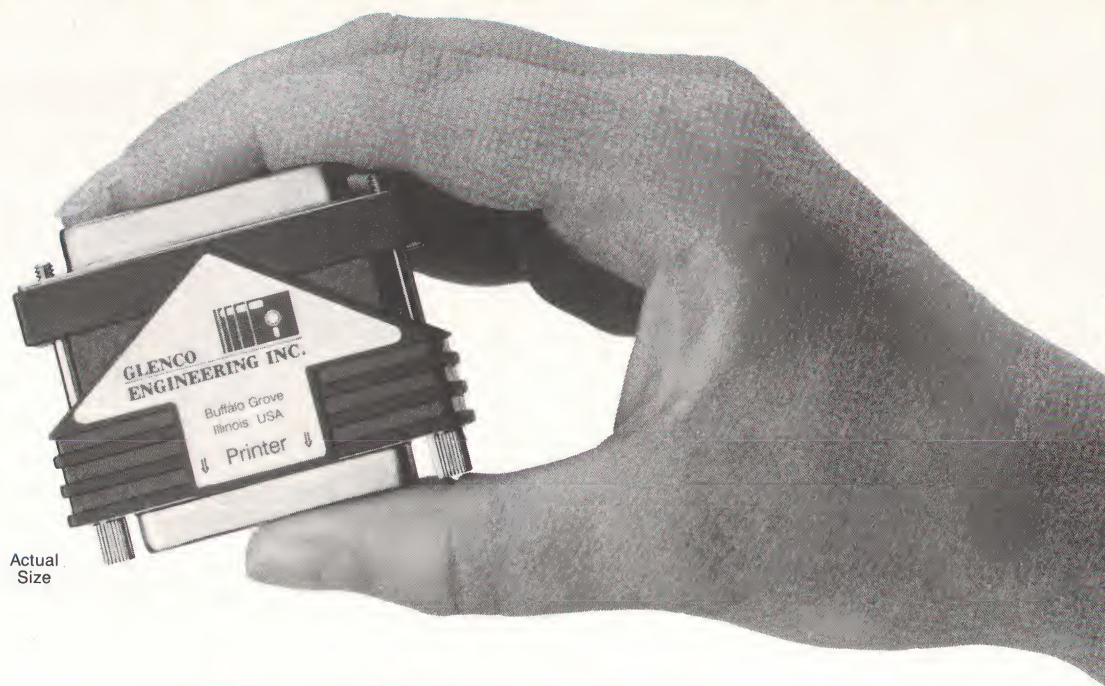
295

256

Monitor activity and packets on Ethernet network card to help identify faulty cards, determine peak network usage. Analyze percentage of time nodes are active, amount of data transmitted, amount of data corrupted by collisions on network. Available for arcnet networks.



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## The Ultimate in Hardware Based Copy Protection

### Compatible

Hardlock is designed for the "real world". Side effects from printers, laptops and technical issues such as static and true IBM printer port compatibility are virtually non-existent.

### Reliable

Our unique ASIC (Application Specific Integrated Circuit) extends the Hardlock's operating range below 2 volts. Since no idle current is required, there is no additional loading on the printer. Electronically erasable memory **requires no battery.**

### Flexible

Field programmability is now possible. Additionally our optional Crypto Programmer board permits the Hardlock to be programmed as Standard, Coupon or Read/Write keys.

### Space-Saving

Hardlock measures only 1.75". Three of our units fit in approximately the same space as only two others. Hardlock with Memory may also be purchased on the smallest PC board you've ever seen. Perfect for those who don't want the device on the exterior of the computer.

**Hardlock**  
**Hardlock with Memory**  
**Hardlock with Memory on a Board**



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*The Security System You've Asked For.*

**GLENCO**



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**LAN Assist Plus**  
Fresh Technologies

1982-003

Allows authorized users to view, monitor, control, and assist any workstation on the network. Provides complete access to the screen and keyboard of other workstation, even across bridged servers. Full graphics support.

*Requires a Novell network.***Net Vision**

Fresh Technologies

1982-016

Network analysis tool to view Novell network usage, efficiency, and performance in real-time or user specified time frame. Monitor 38 network characteristics, show data in graph/spreadsheet format.

**Remote Console**

Fresh Technologies

1982-015

Allows NetWare console operators to view screen and access keyboard of file server console from any LAN workstation. Execute network commands from workstation. Uses 2k. Operates with Lan Assist Plus.

**ViewComm**

Greenleaf Software

55-042

Serial data analyzer lets you examine data and control signals live, examine data previously sent/received, scan for data or errors, start or stop recording when triggered by a preset string or control signals.

**LANtrack**

Network Management

1492-003

Realtime server monitoring utility. Warns system administrator if a volume is running low on disk space or directory entries, a high number of physical disk errors or LAN I/O errors occur, server load is high, cache or channel performance is low, file system or I/O performance is poor, disk mirroring status, and more.

**NETUTILS**

ONTRACK Computer Systems

1036-003

Diagnostic, maintenance, and recovery utilities for Novell file servers. NetFile reduces down time and data loss by allowing backup of files off downed server. NetScan checks file structures and detects bad areas. NetDisk allows editing of sectors in Hex or ASCII.

**Serialtest**

Progressive Computing

1378-001

Serial data analysis. Interactive source mode; timestamping; triggers; capture to disk; display in hex; ASCII, EBCDIC, Baudot; autobaud; graphic signal display; Source and monitor modes; data scope and breakout box; timestamping; capturing of signal state changes in buffer; Carbon Copy and PS/2 compatibility.

**Saber Meter**

Saber Software

1969-003

Monitor LAN access and usage by user and application. Records application name, status, server, login ID, station number, dates and times of access. BROWSE allows for queries, reports and graphs on the collected statistics.

**Breakout II**

South Mountain Software

42-048

Asynchronous communications debugging tool. Allows user to capture or send data while controlling and monitoring line signals at baud rates up to 115K. Test single devices on COM1 or 2 or tap in between existing communications circuit. Auto baud detection, many display methods (ASCII, hex, EBCDIC, more).

*Includes cable to run between two RS-232 devices.***E-MAIL AND BULLETIN BOARD SYSTEMS**

Electronic mail is the sending of text messages through a network to other users on the network. Bulletin board systems allow multiple users to share and exchange information. Bulletin boards are often used for order entry or technical support.

*See also Communications Applications.***cc:Mail Platform Pack**

CC:Mail

1937-027

E-mail system transparent across different networks, operating systems, and hardware platforms. Store and forward structure reduces network traffic and disk requirements. Menu-driven interface, context sensitive help, priority messages, mixed media items, graphics editor, mail lists, integrity checking, more.

*Requires purchase of 8 or 25 user packs.***DaVinci eMAIL**

DaVinci System

1906-001

Electronic mail software combines menus, windows, and mouse support in a user friendly interface. May be run as a TSR. Features online help, password security, certified and priority mail. Supports NetWare MHS.

**DaVinci eMAIL Combo**

DaVinci System

1906-001

Includes the DaVinci eMAIL systems for the DOS, Windows, and OS/2 interfaces.

**TBBS 16-Line**

eSoft

2710-003

The Bread Board System (TBBS). Multi-user Information Manager cont'd.

allows up to 32 users on single CPU with DOS. No LANs or multi-taskers. Template menu design for custom presentation. Electronic mail, text file database, file transfer, and questionnaires. Versions for single line and 32 lines available.

**TDBS for TBBS 16-Line**

eSoft

2710-013

Data Base System (TDBS) expansion module for TBBS. dBASE III Plus compatible compiler and run-time allows multi-user programs. Up to 32 remote or local users on single PC with DOS. No LANs or multi-taskers. Transparent file sharing and shared screen updates for multi-user coding. Automatic communications support.

*Requires TBBS. Single and 32 line versions available.***Major BBS Bulletin Board**

GALACTICOMM

1967-001

Fully functional bulletin board system for up to two simultaneous users (three users including the system operator). Includes public posting areas, private e-mail, teleconferencing, file upload/download, and questionnaires. Source and upgrades for up to 64 users available directly from manufacturer.

**MENUEING SYSTEMS AND SHELLS**

Programs to hide or enhance the DOS command line and allow more flexible file handling and better interfacing to network software.

*See also Help Guides and Training; TSR's and DOS utilities; Keyboard and Batch Enhancers; Text Screen Libraries.***QDOS Network Manager**

Gazelle Systems

726-006

Hard disk file management for LANs. Features pictorial directory map and editor. View directories, copy, move, sort, find files, select and execute DOS commands, set file attributes. Online help. Four user license.

**LanSelect**

LANSystems

1261-006

Memory resident menu system using 4K RAM to load and execute any program. Allows users to pop up menu of programs from within any application or to use hotkey to execute other programs directly. Suspend current program and executes any option selected as if it were memory resident.

**LANShell**

LANSystems

1261-001

Fully customizable menuing system supports all major network standards. Create pull-down and pop-up menus, entry forms, selection windows, and password security. Support for IBM extended character set. Create bullet proof front ends for your network.

**KeyWord Commander II/Net**

Logical Solutions

4036-002

Menu shell network version is an unlimited user license per server. Offers all of the features as the PC license, on network drives, plus usage tracking, system administrator "master password" override, unique menus per user or standard network menus and updating of single menu items from DOS.

**Saber Menu**

Saber Software

1969-001

Creates custom menus for users or groups with no memory overhead. Includes LOGIN scripting system, Broadcasting system to display messages, ability to display and change session options, HIDE and SHOW options for files. Multiuser version.

**NETWORK ARCHIVE AND BACKUP**

Utilities for compressing data to conserve space and for copying of data to external media to protect against loss.

*See also Backup in the Utilities section.***Cheyenne Utilities**

Cheyenne Software

1905-002

Restores crashed servers, helps create new ones, and upgrades NetWare versions without rekeying bindery information. Archive, remove, compress directory trees. Reporting provides server information on users, groups, trustee assignments, disk usage per user. Includes NetBack.

**LANshadow**

Network Management Inc.

1492-002

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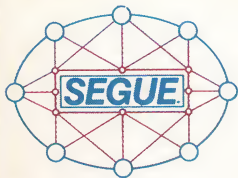
Novell

141-031

Reference manual set for low-level Network APIs. Describes and gives assembly language parameters for each call. Subset of Network C Interface.



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<b>OTHER NETWORK UTILITIES</b> Software for general network system maintenance and enhancement. See also the Utilities section.									
<b>Network Eye Artisoft</b> Establish connection to any PC on a 100% netbios network. Control any network PC from a single PC. Uses 30K on controlling computer and 2K on monitored computer. Passwords protect computers from unauthorized monitoring or control. Supports character-oriented programs only.		1498-002	199	189	<b>PrintQ LAN Software Direction</b> Memory resident print spooler. Control print priority, print multiple copies, write to disk and spool print files for printing at a later time. All ports can be routed to different printers. Pop-up status display; print with no intervention.		1641-004	495	298
<b>LT Auditor 1 server Blue Lance</b> Audit trail for Novell networks. Detect all types of file access on network file server or workstation local drives. Consist of two programs, a TSR on each workstation and a Supervisor interface on the server. TSR occupies 20K. Produces files access and LAN access reports.					1705-001	495	459		
<b>SiteLock Brightwork Development</b> Helps enforce compliance with software license agreement and monitors application usage on NetWare LANs. Limits number of simultaneous users of application. Report and graphics display actual application usage. Virus protection feature verifies that program files are correct before running to ensure against viruses.		1254-013	495	397	<b>TCP/IP</b> Applications and utilities to provide TCP/IP connection to various. TCP/IP is a communications protocol generally found on Unix networks. See also Unix Operating Systems; Communications Hardware; Network Operating System.				
<b>LANGARD file server Command Software</b> Integrated menu, security, and logging. Controls and protects LAN data from unauthorized viewing, altering, or deleting. Unattended workstation protection, network access control, data password protection, status reports. Query, sort, and report functions. Uses 15K.		1275-005	395	345	<b>PC/TCP Development Kit FTP Software</b> Programming interface to PC/TCP. Provides direct access to the transport, network, and link layers to allow development at low-level protocols. Includes Berkeley Sockets emulation library and high-level protocols such as ftp, rlogin, and telnet.		2692-005	500	465
<b>Map Assist Fresh Technologies</b> Provides peer-to-peer disk access. Authorized users MAP the physical drives of other workstations as their own logical drives. Compatible with disk cache utilities. Requires a Novell Network.		1982-001	349	329	<b>PC/TCP Plus FTP Software</b> Collection of programs to implement TCP/IP protocol and NFS for PCs. Provides ftp, rcp, telnet, rlogin, smtp, and others. Includes TSR kernel which allows 32 simultaneous network connections and InterDrive. Supports IP security options, VINES, NetWare, 3+Open, 10Net, and LAN manager-based networks.		2692-011	490	449
<b>Netroom 4 Workstn Licence Helix Software</b> Relocate device drivers, TSR's, Novell's IPX and NetBIOS, NET3/NET4 into expanded, extended, and High DOS memory. DISCOVER utility displays information about hardware/software memory configurations. Ten user and 100-user licenses available.					1623-009	149	129		
<b>LANSpace LANSystems</b> Free up to an additional 56k of RAM on your Novell network. Loads the NetWare shell into extended memory. Unloads NetBIOS for applications that don't require it. Supports unlimited users on a single server. Requires a 286+ PC, 64K free extended memory, Netware.		1261-004	495	459	<b>X WINDOWS SERVER AND STATION EMULATORS</b> These are software products that allow a PC to emulate X Windows servers and stations. X Windows is a client-server graphics architecture. See also Unix & XENIX; LAN Operating Systems.				
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<b>Saber LAN Adm. Pack Saber Software</b> Bundles the entire line of Saber LAN administration software. Includes Menu System for custom front-ends, Meter for monitoring, Secure for workstation security, Print Manager, and the LAN Setup Guide.		1969-007	695	549	<b>Vista-eXceed Plus Control Data</b> Protected mode X Window Server for DOS with full X11 R4 implementation including XDM ControlProtocol and the Non Rectangular Window Shape Extension. Has escape to DOS key. Requires TCP/IP transport. Version available that supports any video adapter hardware compatible with IBM 8514 graphics adapter.		2996-002	540	519
<b>PRINTER MANAGEMENT</b> Software for managing printer access among network users. See also Print Control and Font Editors; PostScript.									
<b>PS-Print Brightwork Development</b> LAN printing system allows any network PC to double as shared print server and workstation. Attach multiple printers to each PC, submit print jobs with standard NetWare commands. Has no login requirement to allow PCs to be logged out as print servers. Single server network license.		1254-004	395	319	<b>PC-Xview Graphic Software Systems</b> X-windows terminal emulator for DOS. PC users have access to Unix hosts and X applications via TCP/IP network. Users hot-key between Unix X-windows and DOS without interrupting Unix applications. Accesses up to 16M, allowing more windows.		223-048	445	425
<b>Printer Assist Fresh Technologies</b> Enables printer sharing. Integrated with Novell printing utilities, supports all printers, works across bridged servers, does not require interrupt-driven parallel ports, and logs and records all shared printer activity.		1982-005	179	169	<b>PC Xsight Locus</b> Server allows PC to function as X Window Server terminal. Allows user to run multiple programs on one or more computers concurrently from a single PC without UNIX commands. Supports variety of PC hardware. Features include virtual screens, user defined fonts, and access to DOS. Compatible with X11 Windows Ver 4. Requires 2M memory, mouse, and TCP/IP.		1978-004	425	409
					<b>PC Xsight with TCP/IP Locus</b> PC Xsight with TCP/IP interface included. Requires 2M memory and mouse.		1978-005	495	479



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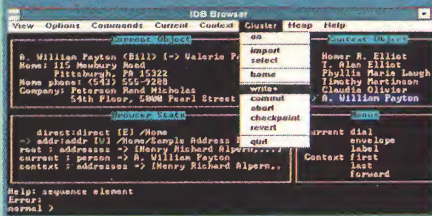
## DialogCoder

DialogCoder is a Windows CASE tool and source code generator for dialog boxes, the user-interface components of an application. DialogCoder generates code to support everything from simple, flat WYSIWYG dialogs to complex dialogs with stacked, overlapped, hidden, disabled controls with conditional states and multiple triggers. Provides a unique animation feature for testing. Supports conditional states, multiple control triggers, linked controls, custom controls, automatic code regeneration of DLLs, and much more. Saves weeks of costly coding and debugging time.

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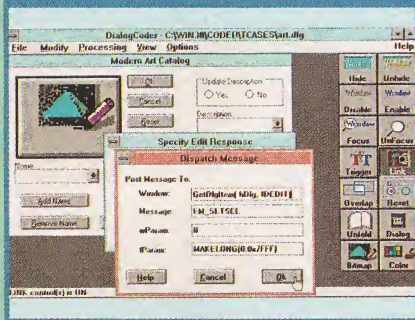
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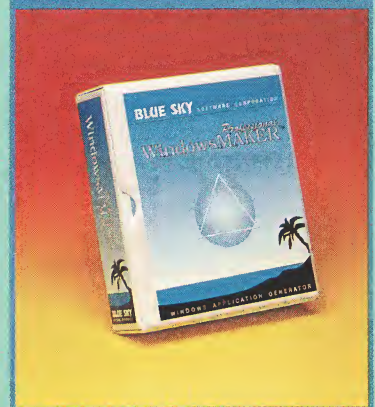
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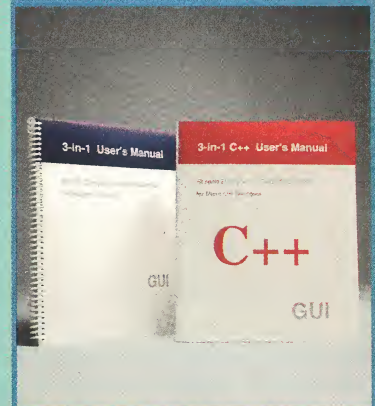
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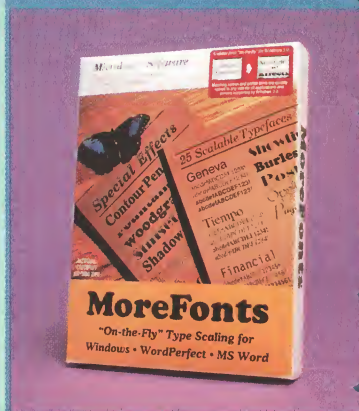
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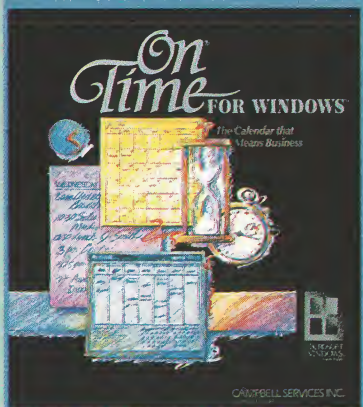
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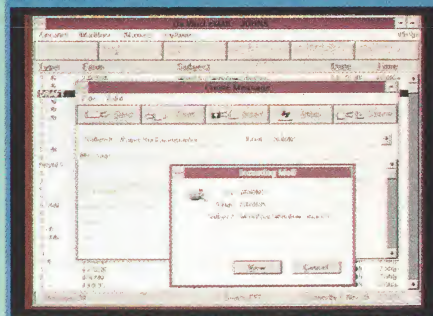
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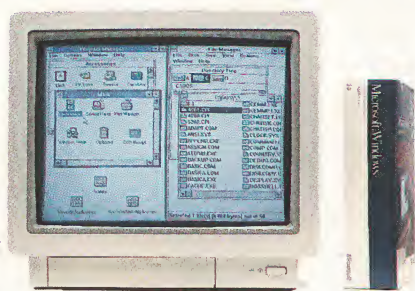
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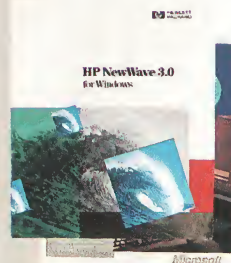
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149

139

#### Publisher's Type Foundry

ZSoft

833-003

Create original fonts, logos, and symbol libraries in any point size. Font editing capabilities offer unlimited modification of characters in a typeface. Supports many printers.

545

529

### PRESENTATION GRAPHICS

#### Charisma

Micrografx

615-007

WYSIWYG business graphics with charting and graphing functions, and drawing/illustration tools. Create word and data charts. Features 41 outline fonts, preformatted or custom charts, and 2200 ClipArt symbols.

495

419

#### PowerPoint for Windows

Microsoft

502-129

Create and manage high-quality overhead and 35mm-slide presentations directly on-screen. WYSIWYG display of actual typefaces, fonts, and text styles. Charting tool for pie, bar, line, column, scatter charts; Drawing tool for shapes with color; 400 clip art images and 40 templates. Import spreadsheet data, etc.

495

349

### PROJECT MANAGERS

#### Micro Planner/Windows

Micro Planning Software

531-003

Model building of projects. Start dates/deadlines, forecast bottlenecks, resource optimization with critical path analysis and multi-project resource leveling. Reports including PERT charts, bar charts. Progress management; Gantt charts; supports many color printers, pen plotters; import/export to/from MAC/PC applications.  
*Requires MS Windows.*

595

325

### Project for Windows

Microsoft

502-126

Project manager with Pert and Gantt charts, outlining, resource usage and histograms, progress tracking. Scheduling: CPM method, finish to start, start to start, start to finish, finish to finish, lead/lag, both task and resource driven, deadline approach. Handles multiple projects, data exchange.

695

549

### REPORTING UTILITIES

#### ReportRight

Management Info Science

3343-001

Stand-alone report writer and graphics generator for Windows 3.0. The software allows end users to quickly and easily generate reports and graphs from raw data. Imports directly from Lotus, dBase, Symphony, WordPerfect, ASCII, and many more. No limit on data file size.

99

89

#### Excel Reporter for dBASE

Zen Software

4355-003

Report writer for Microsoft Windows. Organizes a database reporting system. Facilitates the selection of records, sorting, subtotaling, formatting, and printing of reports. Supports dBASE III+, dBASE IV, and Clipper data files and indexes.

199

189

### SCANNER SOFTWARE AND OCR

#### Image-In Plus

Image-In

3328-002

Gray-scale image processing enhancement to Scan + Paint. Edits gray map: linear, dynamic, brightness, contrast, equalization, posterization, mid-range adjustments. Special gray scale filters. Paste control for combining/blending images.

349

289

#### Image-In Read

Image-In

3328-003

Optical Character Recognition of print text images. Reads any mix character sizes and typefaces on same page. Identification of all common fonts. Automatic separation of kerned pairs and ligatures. Ignores graphics on page. Saves to ANSI or ASCII text. Works with popular word processors.

349

289

#### Image-In Scan + Paint

Image-In

3328-001

Scanning input control with popular scanners. Adjusts brightness, contrast, resolution, halftone, gray scale. Edit images with paint tools: magnifying glass (for pixel editing), eraser, pencil, paint/air brush, paint bucket, Bezier curve. Reads/saves standard formats: TIFF, PC Paintbrush, GEM, Windows & OS/2 bitmap, more.

149

129

#### Image-In VECT

Image-In

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Raster to vector conversion of line art and gray scale images. Lines thinning, contour tracing, or intelligent mixed mode. Polyline or Bezier approximation. Edits lines, curves and control points for line fitting with background image. Saves to DRW, DFX, AI, and EPS.

349

289

#### Image-In Full Pack

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#### Perceive

Ocron

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Windows 3.0 Optical Character Recognition. Combines automatic text recognition with unique ability to learn new characters. Automatically decolumnizes and detects and reads dot matrix. English, French, and German omnifont; learns other European languages. PC 286/386 compatible.

595

519

### SPREADSHEETS AND WORD PROCESSORS

#### Wingz

Informix

434-113

Sophisticated, graphical spreadsheet with 20 business, engineering, and scientific 2D, 3D color graphs; desktop publishing integration of text and graphics; full-function text processor; database features; English-like programming language. Create front ends to INFORMIX, DB2, mainframe, Rdb/VMS, other SQL databases.  
*Windows, OS/2, Mac, Sun, NeXT versions available.*

499

419

#### AMI Professional

Lotus

2068-004

Windows-based word processor with WYSIWYG display, draft mode, view levels, table formatter, arithmetic, color display, macros, DDE links, full keyboard interface, spell checker, thesaurus, text-flow around frames, kerning, and more. Includes MS Windows runtime.

495

399

#### Excel

Microsoft

502-024

Integrated spreadsheet, database and graphics package. Network support, large spreadsheets, name cells, intelligent recalculation.

495

399

#### Excel Reporter

Zen Software

4355-001

Report writer for Microsoft Excel spreadsheets. Organizes spreadsheets into a database reporting system. Facilitates the selection of records, sorting, subtotaling, formatting, and printing of reports. Allows maintenance of data in multiple small worksheets.

149

145





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*Using Windows 3.0 may be easy - but no one said that programming Windows was.* The learning curve for Windows development is steep, costing you a lot of time and even more money. Now, Drover's ToolBox for Windows can help! Drover's ToolBox adds flexibility and power to C applications and to other Windows applications such as Actor™ or SQLWindows™.

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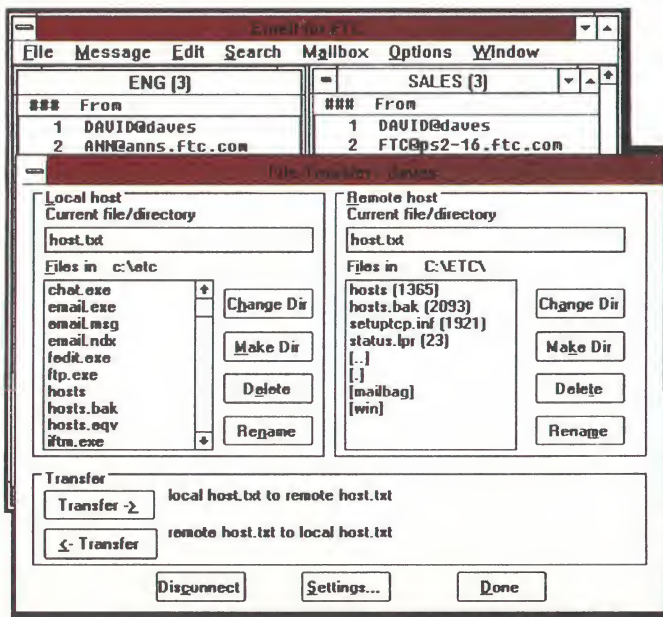
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## Word for Windows

**Microsoft** **502-065**  
All formatting options shown on screen, macros, print preview, import data or graphics, outlining, mail merge, online help, annotation, and redlining. Reads DCA, WordPerfect, WordStar, and MultiMate files.

## Legacy

**NBI** **4273-001**  
Word processing and desktop publishing in one application. Includes an editable WYSIWYG display, pull-down menus, icon bar, spelling, thesaurus, search/replace, footnotes, auto save, indexing and style sheets, automatic tables to 32 columns/page. Supports two-way Dynamic Data Exchange. Online help.

## LIBRARIES

Collections of subroutines for communications, graphics, mathematics, data handling, etc.

## DATA FILE HANDLERS

### C-TRIEVE/Windows

**Coromandel** **1738-027**  
ISAM file manager library developers can use to build data management applications. Callable from C and C++, upgrades to SQL, based on X/Open standard, and runs as client server architecture under MS Windows. Supports unlimited indexing, multi-level transactions, and file and record locking.  
*Supports Windows 3.0.*

### PowerLibW

**ETN** **2118-003**  
Function library supporting dBASE III+ compatible file I/O. Includes multi-instance database server to develop true dBASE+ compatible read and write capabilities. Available for OS/2.  
*Requires Windows SDK 3.0 and MS C 6.0.*

### PowerShow

**ETN** **2118-011**  
Library to extend capability of PowerLibW to create, maintain, and modify text combined with graphical images. Supports bitmap, TIFF, metafile, and device independent bitmap.  
*Requires PowerLibW, Windows SDK 3.0, MS C 6.0.*

### Btrieve for Windows

**Novell** **141-001**  
Data file handler for MS C for use under Windows.

### db VISTA III

**Raima** **126-096**  
C database management system. Developed in ANSI C and portable to various platforms including DOS, OS/2, UNIX, and VMS. Includes linkable runtime libraries with 200 routines for data access, disk caching, file and record locking, and more. Provides both relational data and network data models.  
*Specify C compiler. Single user version.*

### IDB Object Database

**Persistent Data Systems** **3927-001**  
Object database for managing complex data. Define object classes with IDL and implement object operations in C. Supports multiple inheritance, polymorphism, dynamic binding, long & nested transactions, dynamic linking, networks, Includes interactive browser. Easy port to UNIX workstations. Requires Windows SDK.

### CodeBase++

**Sequiter Software** **1174-012**  
Multi-user database management library for C++. Contains C++ classes for working with dBASE IV data, index, and memo files. Other classes to allow for setting up filters and relations, evaluating dBASE expressions, sorting, memory management, and manipulating linked lists. Source included.  
*Works with Zortech, Turbo C++ under DOS, OS/2, Windows.*

## GENERAL FUNCTIONS

### Win++

**Blaise Computing** **269-032**  
Library of over 100 classes for Windows development, most of which provide a simplified, high level C++ interface to Windows. The remainder can be used for representing internal data structures and integrating data into applications. Provides class for each type of display object. Includes source. Supports Borland C++.

### C++ Views

**CNS** **943-004**  
Over sixty ready-made C++ object classes including containers, collections, sets, dictionaries and files, communications, user interface, more. Use OOP concept of inheritance to extend and specialize C++/Views. Browser manages mechanics of building applications. Includes source code.  
*Requires MS Windows SDK, C++ 2.0 compiler/preprocessor.*

### Drover's ToolBox

**Drover Technologies** **2952-001**  
Add over 200 functions to Windows SDK. New classes include time, date, float, listbox, edit, gauge, integer, and more. Integrate with Actor, cont'd.

SQLWindows without writing C routines. Resides as DLL and an object library. Source available. No royalties.

### Drover's ToolBox w/source

**Drover Technologies** **3059-003**  
Includes source code.

### KPWIN Math Toolkit

**Knowledge Garden** **1419-016**  
Adds numerous math functions to KnowledgePro Windows using a DLL written in C. Functions include trigonometric, logarithmic, exponential, random numbers, average, more.

### Windows Software Development Kit

**Microsoft** **502-072**  
Development libraries for developing MS Windows applications. Graphical user interface provides windowing, menus, dialog boxes, and more. Full Support for MS C, MS Pascal and MASM. Includes linker, debugger, utilities, sample code, and documentation. Create icons, cursors.  
*Requires Windows compatible language.*

### Windows Device Driver Kit

**Microsoft** **502-131**  
Windows Device Driver Development Kit. Used to create device drivers for Microsoft Windows 3.0.  
*Requires Windows compatible language and Windows SDK.*

### HERMES

**Raindrop Software** **5012-002**  
Windows dynamic link library which supports DDE in a Windows applications. Allows novice programmer to implement DDE info into an application and improves productivity of the experienced Windows programmer. Frees the programmer from virtually all the tedium of providing DDE support.

## GRAPHICS LIBRARIES

### Graphic Server SDK

**Pinnacle** **1235-014**  
Integrate 2 and 3-D graphs and charts into Windows applications. Works as an extension to Windows creating the image as specified by data sent from an application. Serves multiple clients and windows simultaneously. Bar, pie, area, log, line graphs, more.  
*Supports Toolbook, Superbase, SQLWindows, Excel, more.*

### ObjectGraphics

**Whitewater Group** **800-018**  
Object-oriented graphics library. Create platform independent 2D graphics, including diverse shapes, bitmaps, text, and coordinate spaces. Includes rendering tools for controlling the appearance of rendered graphics.  
*Requires Actor development system.*

## GRAPHICAL USER INTERFACE LIBRARIES

### Tier C++ Class Library

**Genesis Development** **1392-001**  
Over 110 classes that provide access to Windows 3.0 primitives. GDI classes to allow multiple device contexts. True object to object message passing. Supports MDI windows, User Defined Controls, DLL development, debug classes, more. Royalty use of DLLs.  
*Supports Zortech C++ and Glotenspiel C++.*

### Sage Control Pak/W

**Intersolv** **111-007**  
Develop user interfaces for Windows applications. Contains object-oriented controls for rulers, sliders, toolboxes, arrows, palette and picture controls. Can be accessed from Dialog editor. Includes examples, source code and DLL's for controls. Available for OS/2 PM.  
*Requires Windows SDK.*

### WNDX Graphical Interface Toolbox

**The WNDX Corp.** **2635-005**  
Object oriented C routines for Windows graphics functions. Device independent development system for building graphical user interfaces. Source code compatible for DOS, 32-bit DOS, MS-Windows, and UNIX. Provides window management, event handling, memory management, graphics primitives, and more.  
*Requires Microsoft C and Windows SDK.*

### WinTrieve

**Whitewater Group** **800-004**  
Windows-based manager for C and Actor includes ISAM library, C API, and Actor class library. Journaling across multiple files and transaction processing. Access ISAM engine from C library or class library and Actor. Includes source code to class library. Supports LIM EMS.  
*Requires Microsoft Windows.*



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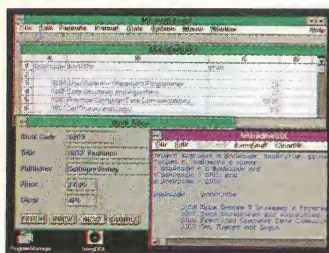
- Fast... applications run faster
- Powerful... full implementation of SQL
- Flexible... choice of multiple front ends
- Compact... requires less than 200K to run



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Black Forest Software

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The engine requires less than 200K under Windows. So you have more memory for your applications.

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Port your applications to DOS or UNIX. Extend Integra's engine with user-defined functions and gateways to foreign files. Use DDE or DLL to easily integrate your own front end. Or others, like Excel or ToolBook. You can even use our powerful Report Writer.

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- ☐ May coexist with Novell Netware (Packet driver) or Microsoft LAN Manager (NDIS driver)
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  - ◆ Telnet-VT100
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Sockets

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You're probably thinking that this must be another one of those \$50,000 products that require a specially equipped workstation and a training course just to open the manuals. If so, you're in for a pleasant surprise. **ERwin/ERX 1.0** runs on any 386 or 486 PC running Microsoft Windows 3.0 and is available now for under \$2,000. For more information on how you, too, can have the



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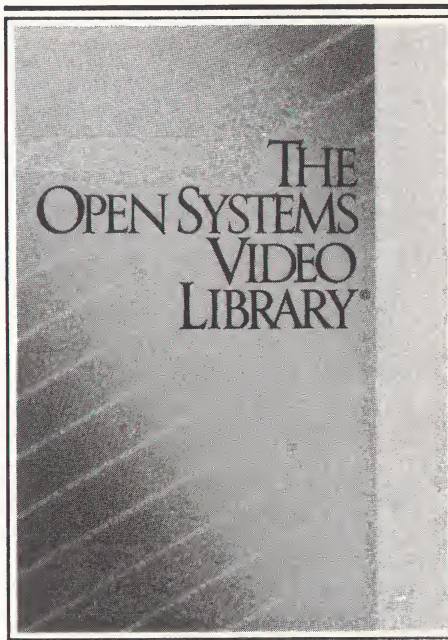
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## INTRODUCES

# GFA-BASIC for WINDOWS 3.0

# C = GFA

OPENW #1

```
WNDCLASS wc;  
char *title = "GFA-BASIC";  
long attr;  
HWND Wnd;  
HDC Dc;  
.....  
wc.style = CS_OWNDC|CS_DBLCLKS;  
ws.lpfnWndProc = MyWndProc;  
wc.cbClsExtra = 0;  
wc.cbWndExtra = 0;  
wc.hInstance = Instance;  
wc.hIcon = LoadIcon(Instance, MAKEINTRESOURCE(MyICON));  
wc.hCursor = NULL;  
wc.hbrBackground = GetStockObject(WHITE_BRUSH);  
wc.lpszMenuName = "MyMenu";  
wc.lpszClassName = "MyClass";  
RegisterClass(&wc);  
.....  
Wnd=CreateWindow("MyClass",title,attr,CW_USEDEFAULT,CW_USEDEFAULT,  
CW_USEDEFAULT,CW_USEDEFAULT,NULL,NULL,Instance,NULL);  
ShowWindow(Wnd,SW_SHOW);  
BringWindowToTop(Wnd);  
Dc = GetDC(Wnd);  
.....  
long FAR PASCAL MyWndProc(HWND hWnd, message, wParam, lParam)  
HWND hWnd;  
unsigned message;  
WORD wParam;  
DWORD lParam;  
{  
.....  
}
```

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Limited Release  
Version

**D**on't drown in a "C" of code, get back to basics with GFA-BASIC from GFA Software. Just one line of GFA-BASIC code produces the same results as the C code on the left. GFA-BASIC combines the intuitive syntax of BASIC with the structured programming of PASCAL and C while possessing the execution speed of compiled C or assembler.

- In addition to 500 commands, includes all additional functions and constants required for special programming of Windows applications
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- Includes very fast Interpreter function as well as editor
- Contains many special mathematical commands and functions for linear algebra, statistics and trigonometry to create technical and scientific applications. A special math library is not required.
- Supports swapping of data on hard disk
- Supports strings and arrays larger than 64KB up to the limit of memory provided by Windows 3.0 or up to 20 megabytes depending on installation memory and free-space.

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**Zinc Interface Library**

Zinc Software

2734-011

300

279

C++ interface library for Windows. Includes editors for windows, menus, input fields, buttons and icons. Screens created in graphics mode also run in text mode. Event manager integrates user input from keyboard, mouse, other input devices. Includes window manager, event and palette mapping, more.

*Requires Borland or Zortech C++.*

**NETWORK LIBRARIES****Distinct TCP/IP Windows**

Distinct Corporation

1951-003

495

435

Kit for writing custom TCP/IP network applications. Implements set of DLL's designed to operate in all three Windows modes. Three interfaces: Berkeley sockets, RPC, and Network Windows (NFS client). Supports Ethernet boards from 3COM, Western Digital and others via NDIS driver interface.

**NAPIL-DLL**

PC Connet Inc.

3928-001

295

289

Network application interface library includes 300+ functions for Windows development, with access to network services including IPX/SPX; all services shareable in Windows. Assembly-coded parser uses less than 7K. DLL callable from MS .OBJ-compatible C compilers, Toolbook, Actor, Excel.

**OPTICAL-CHARACTER RECOGNITION****RECore Programmer's Kit**

Ocron

2671-004

995

895

Optical Character Recognition engine. 340K software library for Windows DLL and DOS. High level interface and modular architecture designed specifically for system integration. Omnifont engine automatically recognizes printed English, German, and French text in nearly any font. Automatic recognition of dot-matrix.

**OPERATING SYSTEM ENHANCEMENTS****ddeXPR**

ETN

2118-007

995

895

Function library supporting Dynamic Data Exchange. Includes proprietary DDE server. Can launch and control applications. Functions for building DDE packets in most formats including BIFF, CF\_TEXT, CSV, RTF. Available for OS/2 PM.

*Requires Windows SDK 3.0 and MS C 6.0.*

**More Power To You**

Softelligence

3297-001

395

319

Library to extend Windows SDK 3.0 to allow direct hardware access to video modes, memory, and registers. Provides direct access to the DPMI (DOS Protected Mode interface) services, bypassing GDI routines for instantaneous control of video, memory, keyboard, and mouse, etc. Examples of animation, MIDI control, etc.

*Source available. No royalties. Requires Windows SDK.*

**MemSHIELD**

The Stirling Group

2929-009

395

369

Memory management library. Eliminates Windows memory problems such as overhead, limited selectors, locking and fragmentation. Extensive control over allocation of heaps. Allocate and free heaps based on program function/mode to increase memory efficiency. Allows monitoring and fine-tuning of memory usage.

*Available for OS/2 PM.*

**LANGUAGES**

Compilers, interpreters, assemblers, database management systems, and expert systems.

**BASIC****GFA BASIC**

GFA Software

5005-003

449

349

Includes 500+ commands for writing BASIC applications under Windows. Supports clipboard, DDE, foreign DLL's, and dialog boxes. Contains standard graphics functions for porting to DOS. Includes math library with algebraic, statistics and trigonometric functions. Supports strings and arrays larger than 64K.

*Available for DOS.*

**Realizer**

Within Technologies

5022-001

395

349

Combines a structured superset of BASIC extended to access Windows object resources with a Programmable Application Tools, such as charts, spreadsheets, forms, animation, and a command scheduler. Includes integrated debugger, visual form designer, support for DDE, DLLs, and serial communications.

*Unlimited royalty-free runtime.*

**C****386 C Code Builder**

Intel

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Complete 32-bit software development package. Full 32-bit compiler, 32-bit linker, 32-bit source code symbolic debugger, 32-bit MS compatible libraries and utilities, and MAKE facility. Does not require runtime *conf.d*.

payments for executable code production.

*Requires 386, 2M.*

**TopSpeed C Extended**

Jensen &amp; Partners

1159-007

395

329

TopSpeed C with support for MS Windows, dynamic link libraries, full source code to libraries, assembler that generates libraries directly, object file disassembler, execution profiler, code locator for embedded systems programming, watch utility, and post-mortem debugging support.

**C 6.0 Compiler**

Microsoft

502-112

495

349

Incremental compiler and linker; integrated environment called Programmer's Workbench; Source Browser allows interactive browsing through project database, reviewing relationships/use of variables, functions, definitions, and macros. Also build and add-on tools; CodeView 3.0 takes less than 20K on 286 or higher PC.

*Supports DOS, OS/2, and MS Windows.*

**WATCOM C 8.0 Professional Edition**

Watcom Products

1044-012

495

439

Includes: 100% ANSI C optimizing compiler and library; protected-mode version of compiler; Windows support; library and source MS compatible; graphics library; overlay linker; profiler; source-level, remote, overlay debugging; MAKE; runtime compatible with FORTRAN 77, SAA compatible, and WATCOM Express C.

*Includes 16-bit 80x86 DOS, Windows, and OS/2 versions.*

**C++****Borland C++**

Borland

777-120

495

379

Borland's C++ compiler for DOS and Windows. Support for large disk drives, 80286 instruction set, and for building Windows applications without the SDK. Turbo Drive Compiler and Environment runs in protected mode. Pre-compiled headers. Includes Whitewater Resource Toolkit, Turbo Profiler, and Turbo Assembler.

**C++ V3.0 for Windows**

Zortech

1108-074

400

349

Complete C and C++ development system for DOS and Windows. Includes WINK library to convert programs from DOS to Windows with one switch. Includes Zortech DOS Extender to create applications up to 4GB, and 16 bit DOS Extender to produce 16 bit applications for 2/3/486 machines. Includes C++ Tools, standard library source.

**DATABASE MANAGEMENT SYSTEMS****Omnis 5**

Blyth Software

1900-005

1,000

895

DBMS with SQL. Communicate with CL/1 & ORACLE. Access a record out of 500,000 in 1/10th second. Simultaneously write to up to 60 files. Data access between DOS, OS/2, and Mac. Supports 255 users. Point and click procedural language. Immediate write to disk for data integrity.

**Integra SQL for Windows**

Coromandel

1738-023

695

675

Compact and full complement SQL RDBMS that runs under Windows. Requires 180K of memory, supports DDE and DLL. Includes interactive SQL and embedded SQL. Extend SQL by implementing user defined functions. Supports Borland, Zortech, Glockenspiel C++ and MS C.

*Versions available for DOS and UNIX.*

**FirstBase for Windows**

ETN

2118-001

295

275

dBASE III+ compatible database management system. Create, modify, maintain dBASE files. Build and import screens, print labels, browse database, use filters, uses Multiple Document Interface. DDE compatible.

**dBFast/Windows**

Gensoft

998-006

495

395

dBASE language development environment includes full use of Windows graphical interface, compiler, editor, royalty free runtime. Use existing dBASE/Clipper applications, port applications to Macintosh.

**SQLWindows**

Gupta Technologies

1453-001

1,295

1,219

System for developing database applications for Windows and OS/2. WYSIWYG report designer generates reports from any data source. Express Windows allows beginners to develop without knowing SQL. Comes with DLL for displaying graphics. SQL support for access to data in SQLBase.

**ERwin/SQL**

Logic Works

2091-001

995

895

Logical database design and documentation under Windows. Supports entity, attribute, and relationship definition; database normalizing; document referential integrity constraints; and text and graphics report printing. Presentation quality graphics. Stores data in flat files or in DBMS. Generates SQL CREATE statements.

**Dossier for Windows**

Malachite Corporation

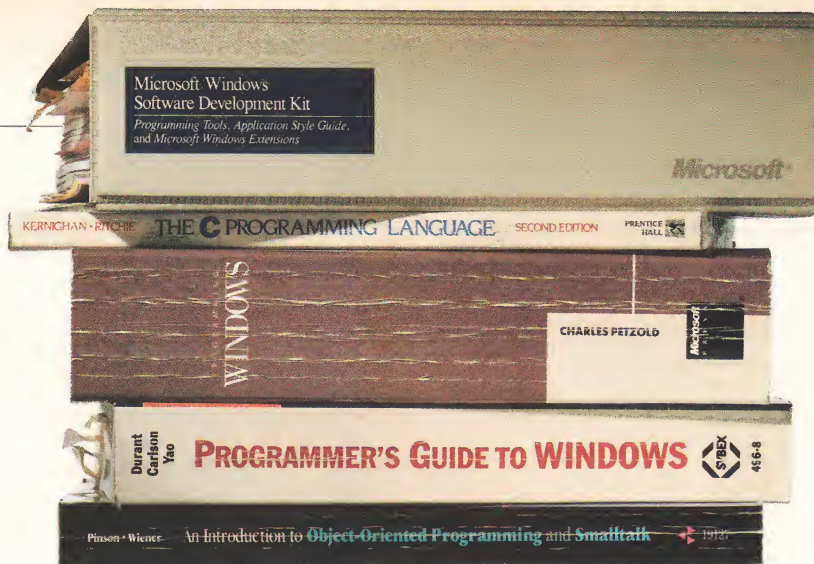
3851-001

495

425

Network capable relational DBMS for Windows. Uses dBASE III, dBASE IV, and Clipper files. Features user programmable browser, programming language, dialog editor, WYSIWYG report, and totals generators, works *conf.d*.





# To write Windows programs you have to read a lot of books.



# Unless you find the right book.

## Open ToolBook.\*

With ToolBook from Asymetrix you can create applications for Microsoft® Windows™ without wanting to jump out of one.

Write applications by simply creating and linking graphics and text fields. It's a lot like using paint and draw programs.

Just use the software construction tools—the script recorder, buttons, graphical objects and text fields.

ToolBook automatically records your actions and creates a script. The script is there, ready to play back whenever you want. (This kind of technology makes animation a breeze.)

ToolBook also gives you hypertext capabilities which means you can link associated ideas—any way you want. Just create

hotwords or buttons then link them to other fields, activate scripts, even launch other applications.

If you're putting together a more complex application, ToolBook has OpenScript,™ an easy-to-use object-oriented programming language. It has all the features you need to create the most advanced graphics-rich applications.

And, of course, we wouldn't ask you to work in anything less than the Windows graphical interface. That makes ToolBook easy to learn and use for everyone.

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## TOOLBOOK by *Asymetrix*.

Software Construction Set For Windows

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with large data files. Attach code directly to controls and dialogs for object oriented development.

### Professional IDL

#### Persistent Data Systems

3927-003

400

345

C toolkit for manipulating complex data. Supports object classing with multiple inheritance, quick-fit storage allocation, garbage collection, compile-time initialization and binary i/o with automatic relocation for arbitrary data structures. Full documented source code included. No royalties.

### Superbase 4 Windows

#### Precision Software

1936-002

695

589

Window-based relational database. Includes VCR-style browsing, text editing, mail merge, label printing, on-screen report painting and program generation, dBASE file compatible, dde, telecommunication, query optimizer. Can treat images, metafiles, and text as data objects. Can connect to SQL database servers.

### Access SQL

#### Software Prod Int'l

1759-009

695

549

Windows relational database management system designed to provide graphical interface. Includes ad-hoc query facility, forms generator, report writer, direct SQL access, and database administration. Client-server architecture utilized on networks. Server provided is SQLBase by Gupta.

### MULTI-MEDIA DATABASES

#### Panorama

##### Image-In

3328-005

99

89

Catalogs and manages images on hard disk. Assigns multiple keywords and description to each image and searches/retrieves via keywords or file format. Quick retrieval by any other Windows applications. Supports TIFF, MSP, PCX, PIC.

### LISP

#### Golden Common LISP Developer

##### Gold Hill Computers

54-003

1,995 1,895

Application development tool with full MS Windows 3.0 integration. Complete support for DDE, DLL, and a FFI for embedding C function calls within LISP. Transparent access to extended memory with Optimizing Compiler and Incremental Compilation. GMACS editor with 250+ functions. DIBs support, online help, 1000 page manual.

### Software Engineer

#### Raindrop Software

5012-002

250

220

Complete Lisp programming environment for Windows 3.0. Contains everything needed to create Windows applications. Contains lexically-scoped Lisp interpreter, Lisp aware text editor, on-line help, and interactive object inspector. Supports GDI, DDE, DLL's, the clipboard, dialog boxes and menus. SDK not needed.

Requires fast 286 or 80386 and 2MB RAM, MS Windows 3.0.

### OBJECT-ORIENTED LANGUAGES

#### Smalltalk/V Windows

##### Digital

38-009

500

435

Smalltalk/V for Microsoft Windows. Includes full support for and access to Window functions from within the object-oriented Smalltalk/V environment.

Available for OS/2 PM, Macintosh, and DOS.

### KnowledgePro (Windows)

#### Knowledge Garden

1419-012

549

489

Combination of high-level, object-oriented language and interactive design tools for fast Windows application development. Allows developer to integrate expert systems and hypertext technology to create applications and intelligent documents. Supports DDE, DLL. Control of screen objects, fonts, bitmaps, icons. Free runtime.

### Actor 3.1

#### Whitewater Group

800-016

249

225

Same as Actor Professional except applications cannot be distributed and does not include ObjectGraphics and Whitewater Resource Toolkit.

Includes Language Extensions.

### Actor Professional

#### Whitewater Group

800-017

495

449

Object-oriented development environment. Dynamic library link to C, Pascal, assembly; user-defined primitives; user-defined C data types; nested C structures; ancestor binding, class variables; class initialization; Virtual memory; more. Includes Whitewater Resource Toolkit and ObjectGraphics.

Includes Language Extensions. No royalties.

### PASCAL

#### Turbo Pascal for Windows

##### Borland

777-130

249

209

Standard Pascal compiler for developing Windows applications. Write, compile, and run Windows applications from within MS Windows. Includes ObjectWindows and Whitewater Resource Toolkit. ObjectWindows allows ability to inherit all standard code for windows, dialogs, menus, controls, and more.

### COMMUNICATIONS AND LANS

Software for communications and Local Area Networks, including software for PC-to-PC communications, terminal emulation, remote control, creating and managing network data flow, and network applications applications and tools.

See also Communications Libraries; Communications: Terminal Emulators.

### COMMUNICATIONS: APPLICATIONS

#### Faxit for Windows

##### Alien Computing

1258-008

149

139

"Windows" printer driver which allows any Windows application (Excel, Word, Page Maker etc) to send and receive faxes provided the user has a fax modem supported by FAXit. FAXit supports: Intel Connection Coprocessor/Satisfaction; PureFAX by Pure Data; Xerox MICROFAX; Brooktrout FAXMAIL, Hayes, Panasonic, more.

#### EXTRA! for Windows

##### Attachmate Corp.

1523-006

425

415

3270 connectivity software supports a variety of IBM compatible connections including Coax, SDLC, LAN, TIC/DLC, File transfer methods such as SEND/RECEIVE (IND\$FILE), output devices and much more. Uses as little as 44k and takes advantage of EMS memory, allows up to 4 active host sessions at one time.

#### VistaCOM for Windows

##### Control Data

2996-013

200

179

Terminal emulation (including TEK4107 and VT220) and network support for Windows. DDE support, scripts, process tables, national character sets, multiple file transfer protocols. Provides access to multiple systems over a wide range of networks.

#### Crosstalk for Windows 3.0

##### DCA/Crosstalk

1918-012

195

139

Communications package for Microsoft Windows. File transfer support includes XMODEM, YMODEM, ZMODEM, Kermit, Crosstalk, and CompuServe B; CASL programming language supports dialog boxes and DDE functions; use function keys, pulldown menus, or icon/mouse; background function; phonebook; VT emulation; cut and paste.

#### IRMA Workstation for Windows

##### DCA/Irma

1918-003

495

449

Terminal emulation and file transfer. Up to five concurrent sessions, 3270 terminal display sessions, or 3287, 3812, 4224 printer sessions. Multiple concurrent file transfers, ANSI/ASCII terminal emulation and asynch file transfer. Supports DDE. IBM SAA/CUA compliance.

#### Dynacomm 3270 Synchronous

##### Future Soft Engineer

2139-001

295

249

Communications package. Compilable script language with 300 commands, DDE support, user-configurable interface, DLL access. Multiple document editor. Supports IBM 3270 adapter, IBM 3278/79 adapter, DCA IRMA, Eicon Gateway. Windows 2.1/3.0 and HP NewWave versions included.

#### Dynacomm Asynchronous

##### Future Soft Engineer

2139-004

295

249

Communications package. Compilable script language with 300 commands, DDE support, user-configurable interface, DLL access. Multiple document editor. LAN support includes NetBIOS, DECLAT, UB. XModem/CRC, Ymodem batch, etc. Emulated VT53, VT100, VT220. Windows 2.1/3.0, HP NewWave versions included.

#### Telnet VT100

##### Distinct Corporation

1951-007

395

385

Allows login to any remote host that supports Telnet. Multiple sessions can run concurrently and user can switch between them by point/click. Also has cut/paste between different Telnet sessions and between DOS and Telnet via Windows Clipboard. Works over Ethernet.

#### WinComm

##### Synappsys

3853-001

149

139

Communications application for Windows 3.0. Emulates TTY, ANSI, VT-52, VT-102, and Vdtext. Transfer protocols include B-Plus, Kermit, XMODEM, YMODEM, and ZMODEM. Compiled macro language allows menu and dialog customization, file control, DDE, text manipulation, clipboard control, and more.

### CONNECTIVITY

#### Super-TCP API

##### Frontier Technology

3510-005

595

495

API to Frontier Technology Super-TCP. Allows developers to TCP/IP applications on Windows.

#### Super-TCP for Windows

##### Frontier Technology

3510-002

495

395

Native Windows product providing TCP/IP connectivity and offering object-oriented File Transfers, multi-document E-Mail, Network Printing, SNMP, and multiple TELNET sessions. Supports 802.3 Ethernet, 802.5 Token Ring, and X.25. Options for API, NFS, NetPrint Server available.

#### PC-Connect

##### Unipress

168-047

495

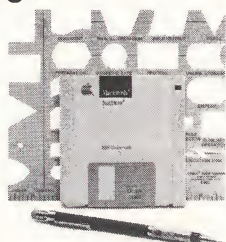
475

Extends Microsoft Windows 3.0 to provide UNIX access from a PC to a UNIX host. UNIX and DOS run concurrently to provide access to networked UNIX resources. Supports DDE between DOS and UNIX

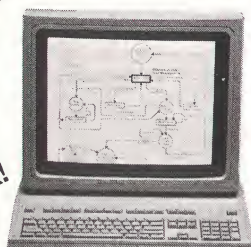
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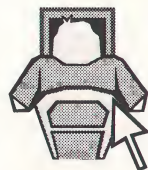
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Software Engineer



Software Engineer was created specifically for Microsoft® Windows™ 3.0. It is the most highly integrated LISP/Windows™ 3.0 development environment available. You will create Windows™ applications quickly and easily. Testing and debugging of functions are done on an individual basis, without the need to compile and link your entire program.

Software Engineer™ contains a Lisp interpreter, a Lisp-aware text editor, an on-line help facility, debugging tools and many sample programs to get you started.

**Raindrop  
Software**  
Phone: (214) 234-2611  
FAX: (214) 234-2674

## Powerful LISP Programs For Microsoft® Windows™

See our product listing in the WINDOWS LANGUAGES LISP section



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user are  
the first out  
the door!

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SYSTEMS INC.**



**001-602-866-1786**

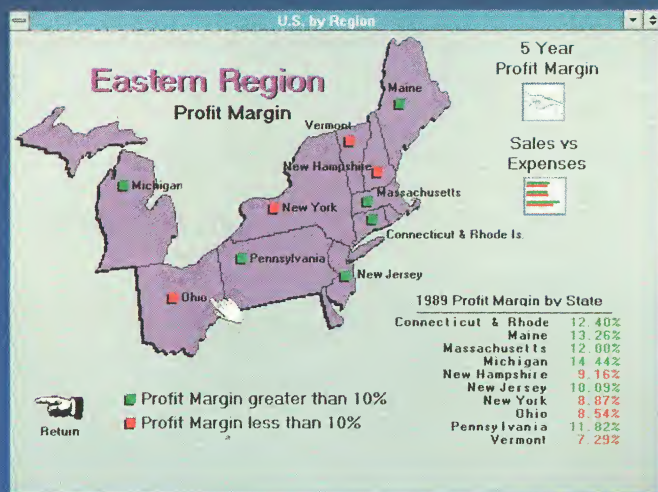
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# Will You Stay On Course In Today's Ocean Of Information?

Navigate Through Information With LIGHTSHIP, The Data-Driven™ Windows EIS



The right information can guide you through rocky business waters. LightShip™, the Windows 3.0-based executive information system (EIS), brings that information to you in a graphical, easy-to-understand format. Imagine seeing exceptions for each sales region every day. Or detecting production and shipping bottlenecks before they occur. LightShip can bring you the business information you need in colorful screens of charts, tables, graphs, and images.

But LightShip isn't merely fixed reports or pretty pictures. It is dynamic information based on Data-Driven™ hot spots that link your PC to real-time information in spread-sheets, database files, text files, even images. And that information can reside on your PC, LAN server, mini, mainframe, or in external sources, which means you can put LightShip to work today in your existing environment, without a major investment.

With its codeless, visual programming environment, LightShip EIS development is fast and easy, using simple point-and-click operations. Data-Driven hot spots mean those applications are flexible and self-maintaining. LightShip applications can access and present thousands of screens of information without redundant multi-screen programming and time-consuming maintenance.

Chart your organization's direction with the right information. LightShip is a remarkable EIS product at an even more remarkable price: \$795. For a demonstration disk or more information, call (617) 350-7035.

**PILOT**  
EXECUTIVE SOFTWARE

# LIGHTSHIP

A Division of Pilot Executive Software  
"Delivering Success in EIS"





# Here Are Six Things You Should Know About Windows™ Development

MDICREATESTRUCT,  
WM\_NCLBUTTONBLCLK, hDlg,  
itemD, wParam, lParam.

These are examples of the obtuse data types, messages and system calls you need to learn to develop Microsoft Windows applications. But with the right tools, the pain and difficulty of Windows development can be eased.

So, if you're thinking about developing for Windows, here are some things you should know...

## 1 Develop FAST — In Standard Languages!

Forget long learning curves. Forget unfamiliar languages. CASE:W™ is a development tool that lets you create Windows applications fast, using programming languages you know, like C, C++, COBOL, and others.

You design the interface with a WYSIWYG-level prototyper. Then CASE:W generates tight, well documented code — in standard languages — like you'd write yourself. Since CASE:W builds the code for your interface, you can concentrate on the application logic. By using a knowledge-base that experts liken to having a Windows specialist at your side, CASE:W cuts Windows development time as much as 80%. And there are no run times or royalties to pay.

## 2 Develop It for Windows Today, Run It On OS/2 Tomorrow

Windows, OS/2 PM, Motif...C, C++, COBOL, XVT... straight-forward or complex GUI development...Your development tools need to adapt to your corporate strategy — today



and tomorrow. That's why CASEWORKS™ offers a wide variety of products that provide the platform and language independence today's changing computing environment demands.

Interfaces designed using CASEWORKS products can be migrated among platforms and languages, preserving your development investment as your environments change. This interface interoperability makes CASEWORKS the leader in standard language GUI development tools.

## 3 Say Goodbye to Development Restrictions

The role of an application development tool is to improve your productivity without introducing unnecessary restrictions or limitations. That's why it's easy to merge your logic with the CASE:W generated code. And why you can add code directly to the CASE:W generated code, and save the changes through our re-generation facility.

**Microsoft**  
Chose CASE:W

CASE:W is a strategic and easy way to develop Windows applications. That's what Microsoft® discovered when it searched for a Windows development tool to market with



its QuickC compiler. And that's why you'll find QuickCASE:W™ in every package of QuickC for Windows™ Microsoft sells.



You don't have to take our word (or Microsoft's) that CASE:W is the best Windows development tool around. PC Magazine said "...every Windows development group should have a copy." And PC WEEK lauded "It's hard to imagine that GUI development could get any easier."

## You Can Learn More in Our Free Windows Development Guide

Discover how easy Windows development can be by ordering CASE:W today. Or, ask for our comprehensive guide on "What You Need To Know To Develop Windows Applications Now!" It includes a step-by-step description — including sample code — of how an actual Windows application was developed.



**CASEWORKS™**

**1-800-635-1577**

1 Dunwoody Park, Suite 130  
Atlanta, GA 30338

(404) 399-6236 • Fax (404) 399-9516

CASE:W, CASE:PM and CASEWORKS are trademarks of CASEWORKS, Inc. All other products referenced are trademarks of their respective companies.



applications. Links with ethernet, token ring, or serial connections and TCP/IP networking software.

**E-MAIL SYSTEMS****cc:Mail Windows Platform****CC:Mail****1937-023**

E-mail system closely adheres to IBM's SAA/CUA and Windows standards. Supports MDI style of document handling. Graphical icons, text editor, access to external applications, create/exchange multimedia messages. Virtually all features of DOS version. Requires purchase of 8 or 25 user packs.

**DaVinci eMAIL for Windows****DaVinci System****1906-001**

Electronic mail software combines menus, windows, and mouse support in a user-friendly interface. May be run as a TSR. Features online help, password security, certified and priority mail. Supports NetWare MHS. *Eight user license.*

**Super-X.400 for Windows****Frontier Technology****3510-006**

Provides X.400 messaging capability in a native Windows implementation which provides a user interface which makes X.400 messaging accessible to all organizational levels. Complies with 1988 X.400 Standard and is backward compatible with 1984 X.400 systems. Supports both LAN and WAN connections.

**PINBOARD****Threadz (Raindrop)****5012-001**

E-MAIL for Windows 3.0 enables on-screen notes to be created and pinned to the Windows desktop. Notes can be created with a click & drag, ready for messages to be typed into them. Notes can be sent between users on a network for work group or company wide message sending.

**NETWORK UTILITIES****Windows Workstation****Automated Design Systems****1901-003**

Includes Windows Print Manager and Windows Menu. Create customized menus for Microsoft Windows applications. Add workstation security and data encryption. Control printer selection and provide print queue management features in the Windows environment. Ten user license.

**SnapNET-Rel.1.0 U.S. Map****Network Monitoring****4340-001**

Software tool under Microsoft Windows 3.0. Build, display, track, modify WAN and LAN topology layouts. Handles thousands of nodes. Automatic backup for recovery. Locator function places nodes automatically using area codes and prefixes.

**SnapNET-Rel.1.1 North American Map****Network Monitoring****4340-001**

Same as SnapNET US Map, but also includes map for Canada.

**X WINDOWS SERVER AND STATION EMULATORS****Vista-eXceed/W****Control Data****2996-014**

X Window Server for PCs running Windows. Full implementation of X11 R4 including XDM Control Protocol and Non Rectangular Window Shape Extension. Requires TCP/IP transport.

**X11/AT****Integrated Inference Machine****2020-001**

Emulates X Windows 11.3, allowing PCs to become X Window display stations. Includes X Window Release 2 and Release 3 fonts, Telnet and FTP utilities, and a font compiler. *Requires Ethernet board.*

**X/PAC****Integrated Inference Machine****2020-005**

Complete X server emulation solution, includes TCP/IP services by FTP Software and proprietary ethernet board. *Requires Microsoft Windows 3.0.*

**XVision****Unipress****168-022**

X-server for PC networked to UNIX computer. Add X-Windows to MS Windows 2.x or 3.0. Run UNIX and DOS applications simultaneously with full access to networked UNIX resources. Supports electronic mail, databases, X-Window and text-based UNIX applications. Supports Ethernet or token ring with TCP/IP. *Requires Microsoft Windows.*

**TOOLS**

Stand-alone applications other than compilers that are used to help develop application software.

**APPLICATION GENERATORS****Toolbook****Asymetrix****2788-005**

Windows application generator. Use OpenScript object-oriented programming language. Use the script recorder to automatically translate

*cont'd.*

mouse and keyboard actions into scripts. Features graphics, data management, hypermedia, test processing, and more.

**ObjectVision****Borland****777-124**

Enables non-technical users to visually create applications for MS Windows. Uses declarative (vs. procedural) style logic with a familiar, forms-oriented interface & visual programming techniques. Incremental development methodology. Includes interpreter with a set of graphical tools: FORM, TREE, LINK, and STACK.

**Guide****OWL International****1667-004**

Interactive information manager. Mix text, graphics, audio, and video into single document. Organize information as linkable objects. Includes LOGiX, a Pascal like programming language. Supports ASCII, RTF, PCX, Windows Metafile, bitmap, and tiff. Supports Windows 3.0 and below.

**LightShip****Pilot Executive****4385-001**

Object-oriented development package for creating Executive Information Systems. Build applications to display data as spreadsheet data, charts, text, and graphics. Use data from any ASCII text file or any Windows application that support DDE. No programming required. Supports PCX graphic images.

*Requires Microsoft Windows 3.0.***Spinnaker Plus****Spinnaker Software****2753-002**

Object oriented hyperprogramming environment. For developing and running custom information management applications. Includes graphical user interface tools like pull-down menus, icons, and buttons. Portable to OS/2 PM and Macintosh.

**CODE GENERATORS****WindowsMAKER****Blue Sky Software****2001-002**

Application generator/CASE that builds MS-Windows 3.0 applications in C. Point & click to design Windows user interface. Supports all Windows 3.0 functions. Produce Windows executable programs/complete source. Port DOS/Mac programs to Windows. Simplifies SDK; full WYSIWYG development environment with many tools. *Requires MS SDK, MS C.*

**WindowsMAKER Professional****Blue Sky Software****2001-006**

Power-user version of WindowsMAKER. Additional features: animation - test look and feel and make changes on the fly before compiling, integrated dialog box designer, icon, bitmap, & C++ support and more. Custom code preserved during regeneration.

**CASE:W Corporate Edition****CASEWORKS****1502-001**

Includes all the functionality of CASE:W Standard Edition plus the following enhancements: multiple child windows, multiple document interface (MDI), client area icons, child window control template, message support, windows help system, CUA compliance monitor. *No runtime fees or royalties.*

**CASE:W for C++/CV****CASEWORKS****1502-009**

Same as Case:W but generates code for Common View 2.

**CASE:W Standard****CASEWORKS****1502-004**

Windows 3.0 GUI application generator and prototyper. Application variable integration with dialog controls. True code re-generation. Animation mode to test interface before compiling. Standard 3GL (C, C++) source code is error free with adjustable comment levels. Ports to CASE:PM.

**3-in-1 C****GUI Computer****4008-005**

Programming tool for Windows developers. Consists of screen designer and a C code generator. Creates all files to build a windows application. Create and arrange 12 types of objects, and modify various object attributes. Objects include static text, editable text, check boxes, buttons, lists, scroll box, and more.

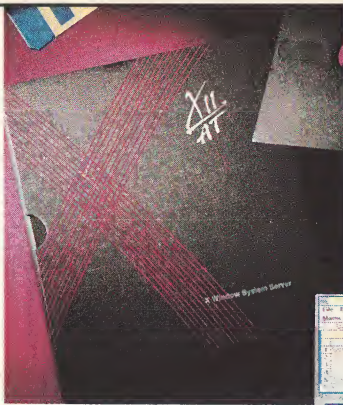
**3-in-1 C++****GUI Computer****4008-007**

Object-oriented version of 3-in-1. Includes all the features of 3-in-1 C but with ability to generate C++ source code. Incorporates C++ features of inheritance, data abstraction, and polymorphism.

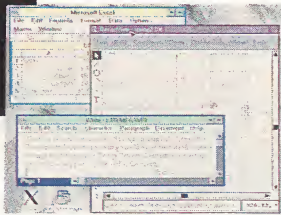
**Object 1****mdb5****1506-003**

Object oriented code generator for Windows. Create interfaces and screens. Includes relational database management system, forms painter, source level debugger, project browser, incremental compiler, editor. 250 predefined classes, C++ like syntax, graphics, and more. *Requires 4M, 80286/386, hard disk.*

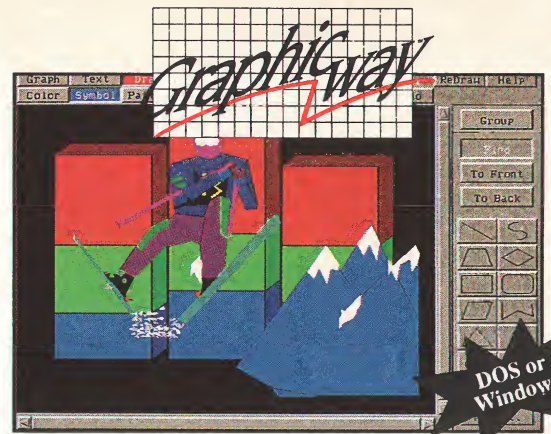




X11  
AT



**X11/AT 3.2** is a graphic communications package for PCs and PC2s which seamlessly integrates the X Window System and the 3.0 MS Window System to allow simultaneous operations in both environments; supports any MS-Windows-driven display; allows Cut and Paste between apps; full-screen, full window, or user-defined partial screens; dynamic color mapping, 256 colors; context-sensitive, on-line help; use one or more of 3 window management modes (X Workspace, Flexible Desktop, Local MS Windows); compatible with Open Look,<sup>TM</sup> Motif,<sup>TM</sup> other standard X window managers; int'l keyboard.



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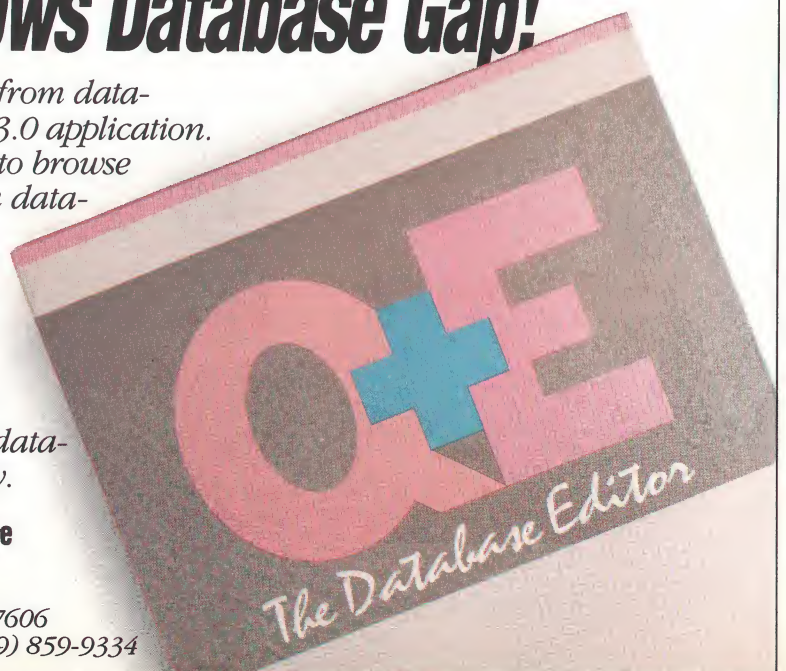
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<b>ProtoGen</b> ProtoView Development 2115-005		199	189	<b>RFFlow</b> RFF Electronics 1770-001		129	115
Application prototyping tool and code generator. Design application menus, icons, buttons, and bitmaps. Attach dialog boxes through push buttons. Establish DDE hot links between fields and screens. Generates C source code.				RFFlow 2.0 is a professional drawing tool for flowcharts and org charts. Requires Microsoft Windows 3.0. 100 shapes auto adjust in size. Diagonal lines and curves. Auto line routing and re-routing. Click on a shape and bring up a sub-chart. Move charts to other apps. via the clipboard.			
<b>ProtoView</b> ProtoView Development 2115-001		695	675	<b>ABC Flowcharter</b> Roykore 887-003		295	279
Interactive WYSIWYG screen painter to create Windows screens with buttons, bitmaps, etc. Perform data validation, protect fields, set up DDE hot links, display tables, dynamic testing, and more. Includes DLL with over 150 screen functions and 12 control objects. Generates commented C and resource source code. <i>Requires Windows SDK.</i>				Flowcharting for Windows with 30 standard symbols, 60 arrowhead styles and sizes, and wide variety of colors, patterns, line widths, and text styles. Clicking on shape can be used to bring up another chart or note. Includes text searching, reporting, and password protection.			
<b>DialogCoder</b> The Software Organization 2048-001		499	489	<b>EDITORS</b> <b>SpeedEdit</b> Bradford Business 2835-004		295	265
Source code generator for dialog boxes. Provides animation feature for testing. Environment for the creation and modification of dialog C processing code. Supports conditional states, multiple triggers, linked controls, custom controls, automatic code regeneration, edit field validation, color, DLL generation, more. <i>Requires Windows 3.X</i>				Full screen text editor available for DOS, Windows 3.0, OS/2, OS/2 PM, Unix, Xwindows, and MPE character. User customizable, DDE regular expressions, language sensitivity, keyboard macros, multiple files, compilation and testing from within editor sessions.			
<b>Instant Windows Combo Pack</b> Winsoft 2609-006		995	969	<b>CodePad</b> Cognetic Systems 5028-001		99	95
Develop validated interfaces with libraries, DDL's, tools, and code generators. Design money, date, time, picture strings, required/range/lookup checks, menus, windows, CUA objects spreadsheet-like tables, text editor, connections to ISAM, SQL, and dBase databases. Includes prototyper, portable library, utilities.				Edit multiple files in overlapping windows. Large files up to 13K lines, browsing. Interactive search and replace, match brace, display current line number, go to line command. Direct link to SDK hypertext help. Dual mouse and keyboard interface, selectable screen fonts.			
<b>Winpro/3</b> Xian 2056-003		895	789	<b>CView</b> Eastern Language Systems 3330-001		99	89
C code generator for MS Windows SDK. From modified resource definition file, produces source code, header, module definition, linker response, and make files.				Editor features multiple fonts and sizes, reformatting to standard C style, search/replace, line numbering, Goto command, hyper text launch, file name in header, more. C source code included. Allows for creation of unified Windows development environment.			
<b>DATABASE SERVERS</b> <b>Q+E for Windows</b> Pioneer Software 2137-001		149	129	<b>Soft Type</b> Z Soft 833-009		199	159
Graphical database tool that allows display, query, sort, search, join, and edit data. Can be used as standalone database or as a data server. Edits databases like an editor. Supports DDE with the SQL database language. Access dBase files, Microsoft SQL Server, OS/2 EE database manager, and ASCII files.				Automatic installation of 62 scalable fonts into most Windows applications. Select any point size. Rotate, expand, condense, and slant characters. Add shadows, outlines. Set gray intensity.			
<b>Q+E Server Database 5 User</b> Pioneer Software 2137-001		999	949	<b>Super Print</b> Zenographics 1162-005		195	169
Five user license of Q+E Server Database Edition. Standard edition available that can access only dBase, XLS, and ASCII files.				Scalable printer fonts, WYSIWYG screen fonts, background and batch printing capabilities. Superdriver generates PostScript-quality font on-the-fly faster than Windows drivers. Make screen fonts with SuperText. Requires Laserjet. Versions avail. for Tektronix & Calcomp.			
<b>Q+E Server Database Edition</b> Pioneer Software 2137-001		299	279	<b>GRAPHIC USER INTERFACE</b> <b>Resource Scrapbook</b> Eikon Systems Inc. 2011-001		225	204
Graphical database tool that allows display, query, sort, search, join, and edit data. Can be used as standalone database or as a data server. Edits databases like an editor. Supports DDE with the SQL database language. Access dBase files, SQL Server, EE Database Manager, Oracle, Sybase, XLS, ASCII files.				A clipboard and resource management system. Extracts, catalogs, and manages cursors, icons, fonts, dialog boxes, and other system resources. Can convert selected Windows resources to OS/2 Presentation Manager format. Can also take pictures of all or selected portions of the screen, with or without menus pulled down.			
<b>Q+E Server Standard Edition</b> Pioneer Software 2137-008		199	189	<b>Icon Pak Developer's Kit</b> Software Workshop 3001-003		495	479
Same as Database Edition but only supports dBase, XLS, and ASCII files.				Library of 575 icons for Windows 3.0. Icons can be used as icons, buttons, cursors, or bitmaps and distributed in applications without royalties. Compatible with development tools that work with ICO files. Cut and paste from the clipboard. Icons can be edited by any Windows-compatible icon editor.			
<b>DEBUGGERS</b> <b>MultiScope Windows Debugger</b> MultiScope 2657-004		379	315	<b>Icon Pak I</b> Software Workshop 3001-001		49	50
DOS/Windows 3.0 debugger. Run time/post-mortem debuggers trace program execution/examine state after crash. Browse program source, procedures, data in 14 window types; view data graphically. Full conditional breakpoints; remote debugging; dual monitor; 386/486 watchpoints. EMS or 386/486 driver to minimize size. <i>Supports MS C 5.1/6.0, Pascal, MASM, FORTRAN, BASIC.</i>				Set of 101 custom icons for Windows 3.0. Icons are pre-drawn, full-color that can be attached to any DOS program, batch file, .PIF, or document file. Includes general icons and icons for many DOS applications.			
<b>DIAGRAMMERS AND DOCUMENTORS</b> <b>dAnalyst Gold</b> Buzzwords International 966-057		395	199	<b>Icon Pak II</b> Software Workshop 3001-002		99	95
Diagrammer for xBASE, Paradox, C, and C++. Multi-user converter from single user xBASE applications. X-references of variables, functions. Source code beautifier, relational screen painter and report writer, portable Video lib, C generation for popular data file handlers, 8088 and 80386 specific versions.				Comprehensive Icon Library for Windows 3.0, featuring 475 color icons in these categories: networking, communications, business, international, programming languages & OS, math/special symbols, utilities, tools, transportation, science, government, more. All new - no duplicates from Icon Pak I.			
<b>MetaDesign Windows</b> Meta Software 1294-001		350	287	<b>DbxSHIELD</b> The Stirling Group 2929-001		595	549
Design and edit simple flow charts to complex system models. Hierarchical, multi-page diagrams, hypertext, user defined symbols. Import/export text and graphics. Source code documentation. <i>Requires MS Windows and mouse.</i>				Eliminates the need for writing dialog box procedures and message handling code. Manages all dialog box messages, controls, and data. Features formatted edit fields, expanding dialog boxes, and hidden and custom controls. All dialog box constructs and styles are supported. Portable to OS/2 PM.			
				<b>TbxSHIELD</b> The Stirling Group 2929-003		295	275
				Allows creation of toolbox controls. Use custom icons, bitmaps, metafiles, text, owner drawn objects, and more as toolbox selectors. Variable sizes, shapes and styles of toolbox possible. Animated buttons. Completely cont'd.			



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steps other programs make you repeat over and over. Ventura Publisher is the one DTP program that can handle all your publishing and design projects.

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☐ UPS Blue (\$9.00/item.)

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617-740-2510



reusable software object.  
Available for OS/2 PM.

**Whitewater Resource Toolkit**

Whitewater Group

800-015

195

189

Allows programmers to visually create windows GUI elements such as dialog boxes, color bitmaps, cursors, icons, and pull-down menus. Also create keyboard accelerators and string resources. Compatible with all Windows 3.0 resource file formats.

**INSTALLERS****INSTALLIT for Windows**

HPI

2718-001

199

189

Native Windows script installer. Handles installation requirements and errors, support for popular networks, diskette production, compression, text/binary file editing, program group installation, completion indicators, system detection, etc. Procedural flow. Removable copyright. Version with C source available.

**InstallSHIELD**

The Stirling Group

2929-011

395

369

Script driven application installer and program group builder. Creates customized Windows installation programs. Simple install language allows creation of complete installation programs without programming. Automatically builds program groups, items, icons. Data compression, percentage complete, feedback controls.  
Available for OS/2 PM.

**PROFILERS AND PERFORMANCE ANALYZERS****SegMentor**

MicroQuill

5016-002

2,795

2,295

Trace exact function level activity of applications. Algorithms are similar to those for auto-routing printed circuit boards. Explore solutions for optimal segment/overlay map. Applications are more compact. Minimize inter-segment (disk trashing) calls. Pragma directives for a new map provided in an include file.  
Available for DOS and OS/2.

**PROTOTYPERS AND DEMO BUILDERS****DemoSHIELD**

The Stirling Group

2929-005

495

459

Demo maker for Windows. Can integrate applications to create custom guided tours and tutorials. Works from within application or as standalone. Supports bitmaps, icons, metafiles, screen dumps, and most standard graphics formats. Includes demo scripting language, animation, built-in demo tools. Import slides, images.  
Available for OS/2 PM.

**LogSHIELD**

The Stirling Group

2929-007

395

379

Session recorder/playback facility. Similar to Recorder Accessory but can be embedded in applications. Records all keystrokes and mouse movements. Create self-running live demos, log entire sessions, use as automated testing tool to run test cases, recovery and remote diagnostics. Can be used with DemoSHIELD.  
Available for OS/2 PM.

**UTILITIES**

Software for general system maintenance and enhancements such as backup, disk optimization, file organization, etc.

**BACKUP****Backup for Windows**

Distinct Corporation

1951-005

129

119

Backup utility for Windows. Schedule daily, weekly, or monthly full or incremental backup for each project group. View files while selecting. Screen blanking with optional password lock, compression.

**GRAPHICAL USER INTERFACE UTILITIES****FirstApps**

hDC

1802-001

99

79

Memory-resident utility facility including ability to create and name application sets; Desktop to extend the Windows Control Panel; Art Gallery scrapbook for graphics, screen saver; memory viewer; font viewer; auto save; alarm clock; game. Supports MS mouse.

**PubTech File Organizer**

Publishing Technologies

1651-004

200

179

Icon-driven enhancement shell for Windows 3.0. Manage files, programs, and utilities through on Windows shell. Customize icons for programs and files. Protect monitor with screen dimmer. Delete files and folders by dragging icons into garbage can. Open tree views of multiple drives.

**GRAPHIC UTILITIES****Tiffany Plus**

Anderson Consulting

2980-001

89

85

Capture part or all of the Windows display to clipboard, printer, or image files including TIFF, PCX, MSP, BMP, more. Works with all Windows compatible video adapters. Intelligent color translation allows grayscale images to be created from color displays.

**Face Lift for Windows**

Bitstream

1042-006

99

89

Makes high-quality screen and printer fonts instantly. Scalable typefaces. Create fonts in any size from 4-127 point. Generate downloadable soft fonts for HP printers also. Comes with 13 scalable Bitstream typefaces including selection of text and display faces.

**DoDOT**

Halcyon Software

2942-001

149

139

Windows tools including screen capture, file conversion, and viewing/printing. Capture portion or full screen. Support conversion between TIFF, PCX, GIF, Color Postscript, MSP, BMP, DIB, IMG, and more. View and print 24 and 8bit color images.

**Phips/W**

Maxa Corporation

3911-011

495

399

Color reduction, image processing and conversion program which allows unlimited variations of conversion between graphics formats and video modes. Operates in all Windows graphics modes, including 16/24 true-bit color modes. Allows multiple image manipulation under Windows and supports all popular graphics formats.

**OPERATING SYSTEM ENHANCEMENTS****Tempo for Windows**

Affinity Micro Systems

2618-001

100

89

Automates Windows applications. Creates macros and records any series of keystrokes, mouse clicks, and mouse drags. Can branch to other macros, loop for an interval, or compare to any text in the clipboard. Nondiscardable memory of 40K. 32767 macros per file.

**Time After Time**

Aldia Systems

3678-001

80

75

Windows 3.0 event processor. Schedules Windows and DOS applications to run automatically at preset times & dates. Create automatic operation of DOS and windows applications. Schedule one-time events through Windows Calendar program. Record and replay at preset time with Macro Recorder.

**HyperFile/Windows**

All Easy Software

2750-003

495

479

Intelligent file cabinet features automatic indexing of text and images. File & find documents, pictures, files, descriptions, notes, catalogs, more. Build intelligent file cabinets and enter information on random basis. Hypertext searches. Cut/copy/paste information between documents, cabinets, or programs.

**More Windows**

Aristo Cad Inc.

1434-007

99

89

Six premium EGA & VGA display drivers for Windows applications. Eliminates scroll bars and redraws for a full-sized page. Instant 2x ZOOM with mouse.

**MoreFonts**

MicroLogic Software

5015-001

150

135

Provide scalable typefaces with special effects for Microsoft Windows. WYSIWYG fonts for all Windows 3.0 applications. Includes 25 scalable typefaces, 1000 of special effects, 41 symbol sets, and automatic support for 8 different applications.

**Batchworks**

Publishing Technologies

1651-003

100

89

Batch and macro language for Windows 2.x and 3.0. Automate Windows applications with batch programs and macros. Build custom dialog boxes without programming. Run, zoom, iconize, move, and stack open windows automatically. Customize menu commands. Compile batch program for stand alone use.

**PubTech MultiTack**

Publishing Technologies

1651-002

149

135

Multiple page clipboard for Windows 2.x. Display and save multiple graphic and text objects in a visual tack board format. Capture screens and windows to the Clipboard. Import and export multiple text and graphic files formats (TIF, PCX, DRW, WRI, ICO, PIC, BMP, and MSP, GRF, and DIB).

**Bridge Batch**

Softbridge

1954-009

179

169

Batch language for transforming stand-alone Windows applications into a user-specific customized workstation under Windows.

**Bridge Tool Kit**

Softbridge

1954-013

695

545

Interactive batch language for Microsoft Windows. Integrate multiple Windows and DOS applications into workstations under common graphical interface. Resulting system is integrated at low level. Tool Kit includes all utilities for building workstations.

**Soft Type**

Z Soft

833-009

199

159

Automatic installation of 62 scalable fonts into most Windows applications. Select any point size. Rotate, expand, condense, and slant characters. Add shadows, outlines. Set gray intensity.



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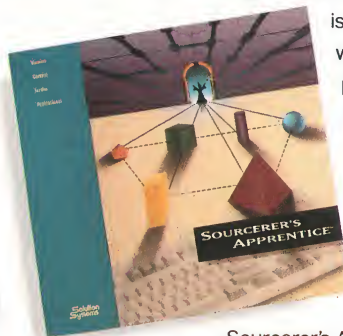
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**APPLICATIONS**

Stand-alone software used to perform tasks such as word processing, accounting, spreadsheets, etc.

**CorelDRAW**  
Corel Systems

2003-003

595 495

Illustration program. Includes magnification, user-created character sets, interactive text manipulation and Bezier contours, font modification, tracing, bit-map scans, duplication and transformation, and more. Compatible with many images and typefaces.

**HyperACCESS/5**

Hilgraeve Inc.

2092-001

199 179

Communications program with DOS and OS/2 versions. On-the-fly virus detection. 60+ modems, including 9600+ bps and ISDN devices; 12 fast transfer protocols include Zmodem and HyperProtocol. 14 terminal emulations. BBS-like Answer mode with E-mail. Built-in editor; learn mode; sliding windows, point-and-shoot interface.

**Wingz Informix**

434-113

499 419

Sophisticated, graphical spreadsheet with 20 business, engineering, and scientific 2D, 3D color graphs; desktop publishing integration of text and graphics; full-function text processor; database features; English-like programming language. Create front ends to INFORMIX, DB2, mainframe, Rdb/VMS, other SQL databases.

*Windows, OS/2, Mac, Sun, NeXT versions available.*

**1-2-3/G**

Lotus

1917-037

695 549

3D worksheet environment. Up to 256 worksheets per file. Relational data management facilities. Business graphics and presentation quality output. Available for DOS and Unix.  
*Requires OS/2 PM.*

**Excel PM**

Microsoft

502-103

495 439

Integrated spreadsheet, database and graphics package. Network support, large spreadsheets, name cells, intelligent recalculation.

**VZ Programmer**

VZCorp

3912-001

3,000 2,895

Object-oriented application development environment for Presentation Manager applications. Features ability to draw GUI on screen. Functionality is extended with ANSI C/C++ language. Includes object editor, C compiler/debugger, OO database, linker, DLL calls, browser, etc. Create classes and software components.

**LIBRARIES**

Collections of subroutines for communications, graphics, mathematics, data handling, etc. See also *DOS Libraries* section.

**DATA FILE HANDLERS****Btrieve for OS/2**

Novell

141-080

595 479

Complete, key-indexed file handler for C, COBOL, BASIC, and Pascal. Multiple indices, fault tolerant processing, passwords, RAM caching, more. No royalties.

**c-tree Plus**

Faircom

45-015

595 529

Portable B+ Tree functions provide multi-key ISAM management. Low level functions to create/maintain data and index files and high level functions for indexed/sequential access. Supports record/file locking, fixed/variable length keys, superfiles, dynamic file space reclamation, resource records, more.

*Includes special developer version of Faircom Server.*

**PowerLibW**

ETN

2118-003

695 615

Function library supporting dBASE III+ compatible file I/O. Includes multi-instance database server to develop true dBASE+ compatible read and write capabilities. Available for Windows.

**MATHEMATICAL LIBRARIES****M++**

Dyad Software

3138-013

295 279

C++ class library with multidimensional array algorithms. Run-time numeric coprocessor detection. Index array classes to operate, assign, and manipulate portions of array based data. Complete vector, matrix, and tensor operations. Includes memory management routines. Available for DOS and Unix.

*Supports Zortech C++.*

**OPERATING SYSTEM ENHANCEMENTS****ddeXPR**

ETN

2118-007

1,495 1,325

Function library supporting Dynamic Data Exchange for OS/2. Includes proprietary DDE server. Can launch and control applications. Functions for building DDE packets in most formats including BIFF, CF\_TEXT, CSV, RTF. Available for Windows.

**SCREENS AND WINDOWS****Curses**

Aspen Scientific

688-002

189 189

Implementation of the full UNIX curses package: screen attributes, windows, etc. Includes screen generator, version of UNIX make. DOS support, no royalties. UNIX System 5.3 compatible.  
*Specify C compiler.*

**Vitamin C**

Creative Programming

31-020

495 469

Interface library includes many menu and window types, input fields, push buttons, check boxes, scroll bars, help manager, pop-up text editor, integrated mouse support. Open architecture with hooks for customizing and extending. One package for developing for both DOS and OS/2. Portable to Unix/Xenix and VAX/VMS.

**C-Worthy**

Solution Systems

732-013

295 259

Functions for windows, menus, help screens, error handling, text editor, keyboard handling, color palettes, mouse support, sound effects, and autodetection of display adapter type. Microsoft Windows compatible. No royalties.

**Vermont Views**

Vermont Creative

169-051

495 419

C-language library consisting of over 550 functions for creating and managing data-entry, menus, windows, help systems, keyboard handling, error handling, and more. System developed as separate resource for use and learning. Many hooks/low-level functions for customized processing. Result code ports to DOS, UNIX/XENIX, VMS.

**LANGUAGE**

Compilers, interpreters, assemblers, database management systems, and expert systems used to create software.

*See also DOS Language section.*

**ASSEMBLY****Macro Assembler (MASM)**

Microsoft

502-033

150 105

80386 Macro assembler for MSDOS and OS/2. On-line help, extensive documentation, editor, CodeView debugger, library manager, program maintenance utility, .EXE file compression utility, .EXE file header utility, and cross-reference utility included.

**BASIC****BASIC Compiler**

Microsoft

502-102

495 349

Develop programs for both DOS and OS/2. Includes editor, CodeView debugger, and QuickBasic.

**C****TopSpeed C**

Jensen &amp; Partners

1159-007

495 469

ANSI compatible optimizing C compiler. Extended library functions, Borland windows support, MS Windows programming, built-in make, hypertext help system. Runs in protected mode under OS/2, generates OS/2 protected mode programs and DOS programs, symbolic debugger, full source code to DOS real mode libraries, and more.

**MetaWare High C OS/2 286**

MetaWare

89-033

125 125

Optimizing ANSI C compiler that supports DOS and OS/2. Configurable for specific needs. Lint-like checking. Nested functions. Linkable to Pascal, other languages. Floating point support. Also generates 16-bit protected mode code for OS/286 and DOS16M.  
*Requires MetaWare High C MS-DOS x86.*

**C 6.0 Compiler**

Microsoft

502-112

495 349

Incremental compiler and linker; integrated environment called Programmer's Workbench; Source Browser allows interactive browsing through project database, reviewing relationships/use of variables, functions, definitions, and macros. Also build and add-on tools; CodeView 3.0 takes less than 20K on 286 or higher PC.  
*Supports DOS, OS/2, and MS Windows.*

**WATCOM C 8.0 Professional Edition**

Watcom

1044-012

495 439

Includes: 100% ANSI C optimizing compiler and library; protected-mode version of compiler; Windows support; library and source MS compatible; graphics library; overlay linker; profiler; source-level, remote, overlay debugging; MAKE; runtime compatible with FORTRAN 77, SAA compatible, and WATCOM Express C.  
*Includes 16-bit 80x86 DOS, Windows, and OS/2 versions.*

**C++****C++ V 3.0 Developer's Edition**

Zortech

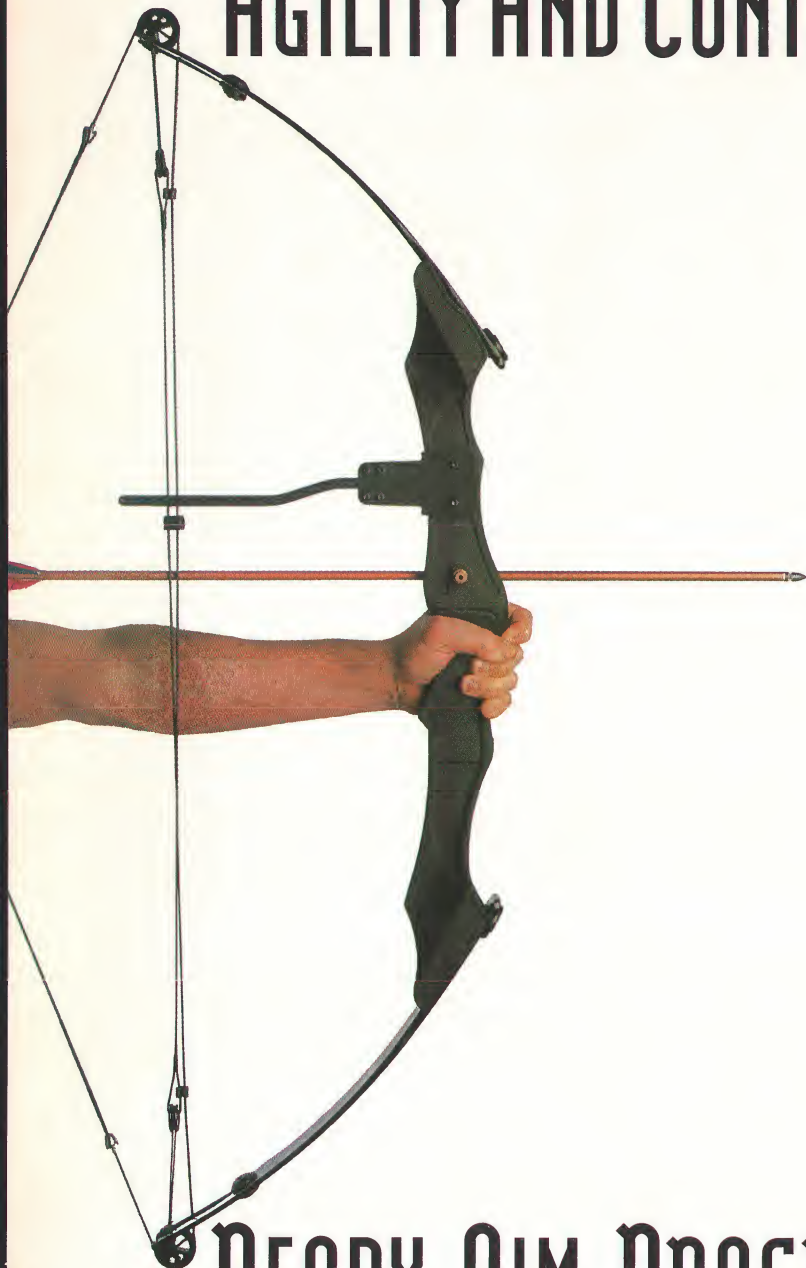
1108-072

700 629





Contains everything needed to develop compatible applications for DOS, Windows, OS/2, and DOS 386. Includes Zortech DOS Extender to *cont'd.*



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*Includes Zortech C++ Tools and library source code.*

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### COBOL/2 Compiler & Toolset

Micro Focus

90-027

1,800

1,699

Full 74 and 85 ANSI, SAA compliant, includes source and object code debuggers, screens, window management, text editor, screen painter, DOS memory extender, and memory management. Also LAN and PM support, embedded SQL, and runtime royalty free option. New feature Reportwriter. Supports both DOS and OS/2.

### COBOL Optimizing Compiler

Microsoft

502-066

900

639

Certified High 85 COBOL. Supports many dialects. ANIMATOR debugger supports backtracking, breakpoints. Network and DOS support, huge memory model, indexed files, make, linker, editor. Develop in protected mode under OS/2 also.

## DATABASE MANAGEMENT SYSTEMS

### Paradox for OS/2

Borland

777-065

725

509

DBMS with query by example, report and form generators, presentation graphics, application language, file import/export. Multiple table reports, cross tabulations, automatic restructuring of forms and reports. Memory management.

*Requires 3MB RAM*

## FORTRAN

### WATCOM FORTRAN 77

WATCOM

1044-014

495

449

Optimizing Fortran 77 compiler uses register allocation and code generator optimizations to produce 16-bit 80x86 code. Offers protected mode, SAA compatibility, GKS graphics library, debugger, overlay and remote debugging, profiler. Includes OS/2 support.

## MODULA-2

### Modula-2 OS/2 Development Pack

Multiscop

204-042

549

495

For OS/2 and PM development. Includes optimizing compiler, POINT windowed editor, and MultiScope debuggers. Create PM programs and DLLs. Portable libraries allow user to develop dual-mode programs for OS/2 and DOS. Package also includes MAKE, decoder, version and cross-reference utilities.

### Professional Modula-2

Stony Brook Software

1046-006

295

259

Development system. Includes QuickMod and "turbo" compilers, runtime library, DOS linker, more. Runtime library source available.

## OBJECT-ORIENTED LANGUAGES

### Smalltalk/V PM

Digitalk

38-009

500

435

Smalltalk/V for OS/2 Presentation Manager. Includes full support for and access to all Presentation Manager functions from within the object-oriented Smalltalk/V environment.

## PASCAL

### Pascal Compiler

Microsoft

502-045

300

199

Write programs for both DOS and OS/2. Comes with BCD and floating point libraries, supports modularity and overlays. Includes editor and CodeView debugger.

## TOOLS

Stand-alone applications other than compilers and assemblers that are used to help develop applications.

*See also DOS Tools section.*

## CASE TOOLS

### CASE:PM for C

CASEWORKS

1502-004

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1,899

GUI application generator and prototyper for OS/2 PM. Application variable integration with dialog controls. True code re-generation. Animation mode to test interface before compiling. Error free standard 3GL code with adjustable comment levels. Ports to CASE:W. No runtime fees or royalties.

*Requires OS/2 PM Toolkit.*

### CASE:PM for C++

CASEWORKS

1502-005

1,995

1,899

Same as Case:PM but generates code for Glockenspiel C++.

### CASE:PM for COBOL

CASEWORKS

1502-005

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Same as Case:PM but generates code for COBOL.

*Requires OS/2 PM Toolkit and either MS or Microfocus Cobol.*

### Spinnaker Plus

Spinnaker Software

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Object oriented hyperprogramming environment. For developing and running custom information management applications. Includes graphical user interface tools like pull-down menus, icons, and buttons. Portable to Windows and Macintosh.

## DATABASE MANAGEMENT SYSTEMS

### Q+E Server Database Edition

Pioneer Software

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299

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Graphical database tool that allows display, query, sort, search, join, and edit data. Can be used as standalone database or as a data server. Edits databases like an editor. Supports DDE with the SQL database language. Access dBase files, SQL Server, EE Database Manager, Oracle, Sybase, XLS, ASCII files.

### Q+E Server Standard Edition

Pioneer Software

2137-008

199

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Same as Database Edition but only supports dBase, XLS, and ASCII files.

## DEBUGGERS

### MultiScope OS/2 Debugger

MultiScope

2657-003

449

349

Run time and post-mortem debuggers trace program execution or examine state after crash. Browse program source, procedures, data in 13 window types; view data graphically. DLL, child process, remote debugging; dual monitor; conditional breakpoints debugging. PM/character-mode interfaces. 100% CodeView compatible.

*Supports MS C 5.1/6.0, Pascal, MASM, Logitech Modula-2.*

### Universal Device Driver Debugger

OS TECHNOLOGIES

2816-001

249

219

Debug device drivers, installable file system drivers, and other system level software. Trace through driver code, set breakpoints, examine tables and memory, other functions. Fully symbolic, up to 10 symbol files. Does not interfere with OS/2 normal operation. Can use with application debugger. Sample device driver.

*Requires terminal; COMM 1, 2; OS/2 1.1 or 1.2 SE or EE.*

## DIAGRAMMERS AND DOCUMENTORS

### Codan

Implements

1621-001

395

349

Builds database of information on large C programs. Shows relationship between functions, variables, structures, fields, macros, files. Customizable reports, automatically generates system documentation.

## EDITORS

### SPF/II for OS/2

Command Tech

301-005

295

279

ISPF/PDF equivalent provides mainframe compatibility, 3270 emulation, REXX interface; includes 74 ISREDIT commands and will also run mainframe REXX macros. Files up to limit of virtual memory.

### Professional Editor

Intersolv

111-060

295

249

User configurable editor with switchable features, including clean screen, tiled windows, overlapping windows in various colors, pull-down menus, rulers, scroll bars, and line numbers. C-like extension language; compiler/debugger. Files up to 100M; emulates Vi, Brief, WordStar, Epsilon, Emacs, more.

*Available for DOS.*

### Epsilon

Lugar Software

306-011

195

119

EMACS-like programmable editor. Run other programs or any compiler concurrently while editing. Edit several files at a time. Full undo/redo feature.

### Slick Editor

Micro Edge

1101-001

195

189

Program editor including undo/redo, multiple windows, multiple files up to 200M, EMS support. Compatible with Mac, UNIX, DOS, and ASCII files. Multiple clipboards, compiler error message processing, procedure tagging, typeless REXX-style macro language, programmable file manager, command retrieval, DOS and OS/2 support, more.

## BRIEF

Solution Systems

732-082

249

219

Customizable programmer's editor. Unlimited windows; multi-level undo; C-like and LISP-like macro languages; macro language debugger; multiple keystroke macros; built-in support for most popular languages and networks; more. BRIEF uses all memory available to it; can edit files over 2 billion lines long.

## GRAPHIC USER INTERFACE

### Object 1

mdbs

1506-003

995

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Object oriented code generator for PM. Create interfaces and screens. Includes relational database management system, forms painter, source level debugger, project browser, incremental compiler, editor. 250 cont'd.



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**PC-lint** presents  
**C Bug # 604**

```
#include <stdio.h>
char *hello( char *s )
{
    char buffer [40];
    sprintf( buffer, "Hi %s", s );
    return buffer;
}
```

*Assuming that the argument string is never greater than 20 characters there is, nonetheless, a subtle bug in this C function. Can you spot it? If not, give us a call. Hint: it "works" some of the time.*

PC-lint will catch this and many other **C bugs**. Unlike your compiler, PC-lint **looks across all modules** of your application for bugs and inconsistencies.

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predefined classes, C++ like syntax, graphics, and more.  
Requires 4M, 80286/386, hard disk.

**OS/2 PM Softset**

Microsoft **502-083** 150 109  
Software tools for programming with the OS/2 Presentation Manager. Included is a Font Editor, Dialog Editor, Icon Editor, and Resource Compiler.  
Requires Presentation Manager and a compiler.

**OS/2 PM Toolkit**

Microsoft **502-083** 500 369  
Includes the OS/2 Presentation Manager Softset plus all three volumes of the Microsoft OS/2 Programmer's Reference, Programming the OS/2 Presentation Manager by Charles Petzold, and a disk of sample programs.  
Requires Presentation Manager and a compiler.

**TbxSHIELD**

The Stirling Group **2929-003** 295 275  
Allows creation of toolbox controls. Use custom icons, bitmaps, metafiles, text, owner drawn objects, and more as toolbox selectors. Variable sizes and shapes of toolbox possible. Animated buttons. Completely reusable software object. Also available for Windows.

**INSTALLERS****Install**

Knowledge Dynamics **1721-002** 349 309  
Script-driven product installer. Supports different fixed and floppy disk configurations, multiple target disks/subdirectories, on-the-fly file creation. Handles all DOS errors. Restrict user to install selected parts of product. Unlimited number of disks/files; unlimited file size. CONFIG.SYS/AUTOEXEC.BAT editor; full source.

**Install Family Mode**

Knowledge Dynamics **1721-005** 449 389  
Supports DOS and OS/2.

**Install International**

Knowledge Dynamics **1721-006** 449 419  
Adds international support for Install. Includes tools needed to translate into any foreign language, including multi-byte languages.

**EZ-Install**

The Software Factory **1119-001** 249 239  
Features Installation Aid menu-driven install generator. No scripts. Performs CONFIG/AUTOEXEC modification, hardware checks. Handles errors; installs parts of product. Unlimited disks and files. Full source and compression utility. EZ-PAINT included for custom menus/forms. No royalties or copyright.

**EZ-Install**

The Software Factory **1119-001** 349 329  
Includes DOS and OS/2 versions.

**InstallSHIELD**

The Stirling Group **2929-011** 595 549  
Script driven application installer and program group builder. Creates customized OS/2 PM installation programs. Automatically adds application to program groups. Percentage complete and other feedback controls.  
Available for Windows.

**MAKE****PolyMake**

Intersolv **111-050** 179 159  
Make utility. Recompiles altered source modules and relinks programs. Supports Polytron PVCS logfiles.

**Opus Make**

Opus Software **1675-002** 129 119  
OS/2 make utility has all features of UNIX version with many extensions. Works with Polytron PVCS and Burton Systems TLIB, LIB and SLR Systems OPTLIB. Includes makefile generator, timestamps for source and object files, an error message redirection utility, and a regular expression tester. DOS Memory Miser runs in 3K.  
Shipped with DOS version.

**PARSERS AND LINTS****PC-Lint**

Gimpel Software **53-009** 139 115  
Analyzes C source code and finds program inconsistencies and bugs. Finds uninitialized and unused variables, locates unusual expressions, more.

**PROFILERS AND PERFORMANCE ANALYZERS****SegMentor**

MicroQuill **5016-003** 2,795 2,295  
Trace exact function level activity of applications. Algorithms are similar to those for auto-routing printed circuit boards. Explore solutions for optimal segment/overlay map. Applications are more compact. Minimize inter-segment (disk trashing) calls. Pragma directives for a new map provided in an include file.  
Available for DOS and Windows.

**UNIX-LIKE TOOLS****PolyAWK**

Intersolv **111-105** 195 189  
Pattern matching language. Handles common text manipulation and data conversion tasks, multiple input files, dynamic regular expressions, and user-defined functions. True implementation of the awk standard according to authors. Includes pseudo compiler for use with PolyAWK runtime.

**MKS AWK**

Mortice Kern Systems **469-001** 179 149  
UNIX pattern-matching language for DOS or OS/2, compatible with specifications in "The AWK Programming Language" by Aho, Weinberger, and Kerrighan (included). Introduction to C and prototyping tool for larger programs.

**MKS Lex & Yacc**

Mortice Kern Systems **469-010** 349 299  
100% UNIX compatible compiler construction tools for DOS or OS/2. Act as program generator that takes descriptive input and writes program module that simplifies creation of languages by producing fast, compact, portable code.

**MKS Programmer's Platform**

Mortice Kern Systems **469-020** 995 895  
Includes MKS Toolkit, MKS MAKE, MKS RCS, and MKS LEX & YACC. Performs on standard PC networks like Novell Netware and PC NFS with illusion of complete UNIX timesharing system.

**MKS RCS**

Mortice Kern Systems **469-002** 349 319  
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**MKS Toolkit**

Mortice Kern Systems **469-004** 349 299  
Full implementation of over 150 UNIX utilities and brings functionality of UNIX System V.3 to DOS or OS/2. Includes KornShell, vi editor, AWK programming language, cpio, crypt, diff, egrep, sort, and tar.  
Available for DOS and OS/2.

**VERSION CONTROL SYSTEMS****TLIB 5.0 Version Control**

Burton Systems **403-005** 195 175  
Includes both MS-DOS and OS/2 support. Allows retrieval of previous versions, manual and automatic branching, labels, check in/out locks, keywords, wild cards, file lists, binary file support, more.

**PVCS Professional**

Intersolv **111-089** 495 439  
Source code revision control system. Logs revisions, allows unlimited branching. Includes security features. Provides storage and retrieval of multiple revisions of text or code. Maintains complete history of changes made to each revision.  
DOS version available.

**Sourcerer's Apprentice**

Solution Systems **732-139** 499 459  
System for managing changes to source code. Track each change made to a file. Document all changes. Recreate source file as it existed at any point in time. Prevent simultaneous updates to same source file. Secure source files on a file server from unauthorized access and updates. Installs on a file server.  
Available for DOS and Unix. Personal version available.

**UTILITIES**

Applications for performing basic system maintenance and enhancement such as disk optimization, backup, and others.

**HPFS Utilities for OS/2**

GammaTech **5010-001** 99 89  
Utilities designed for the OS/2 High Performance File System including HPFS386. Optimizes fragmented files, recover erased files, add file comments, customize directory displays, alter file dates and attributes, locate lost, or duplicate files. Supports long file names and extended attributes.

**MultiBoot**

Bolt Systems **1449-001** 50 50  
OS/2 and DOS booting utility. Boots DOS or OS/2 without floppies. Automatically boots preferred system. For OS/2 compatible IBM PC AT, XT, or PS/2.  
Requires DOS 3.0 or higher.

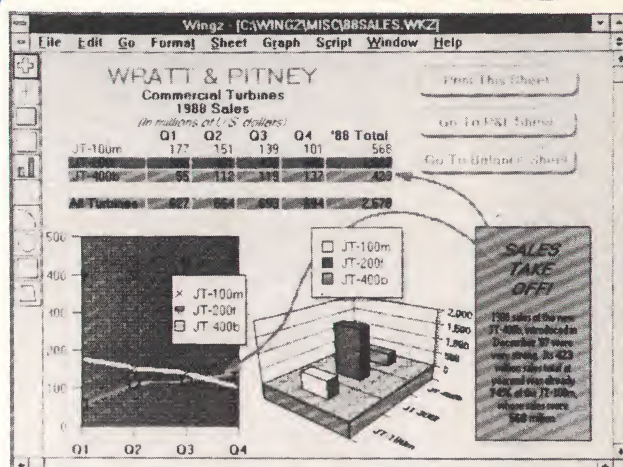
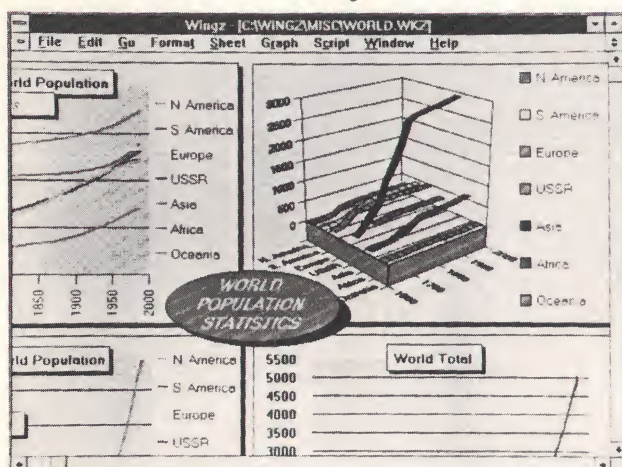
**Polymod2**

Memsoft **2907-001** 645 599  
Allows OS/2 to function as a multiuser environment. Each terminal can access OS/2 and run multiple applications. Runs any OS/2 application. Allows DOS machines to access OS/2 sessions. Unlimited number of terminals. Security features.



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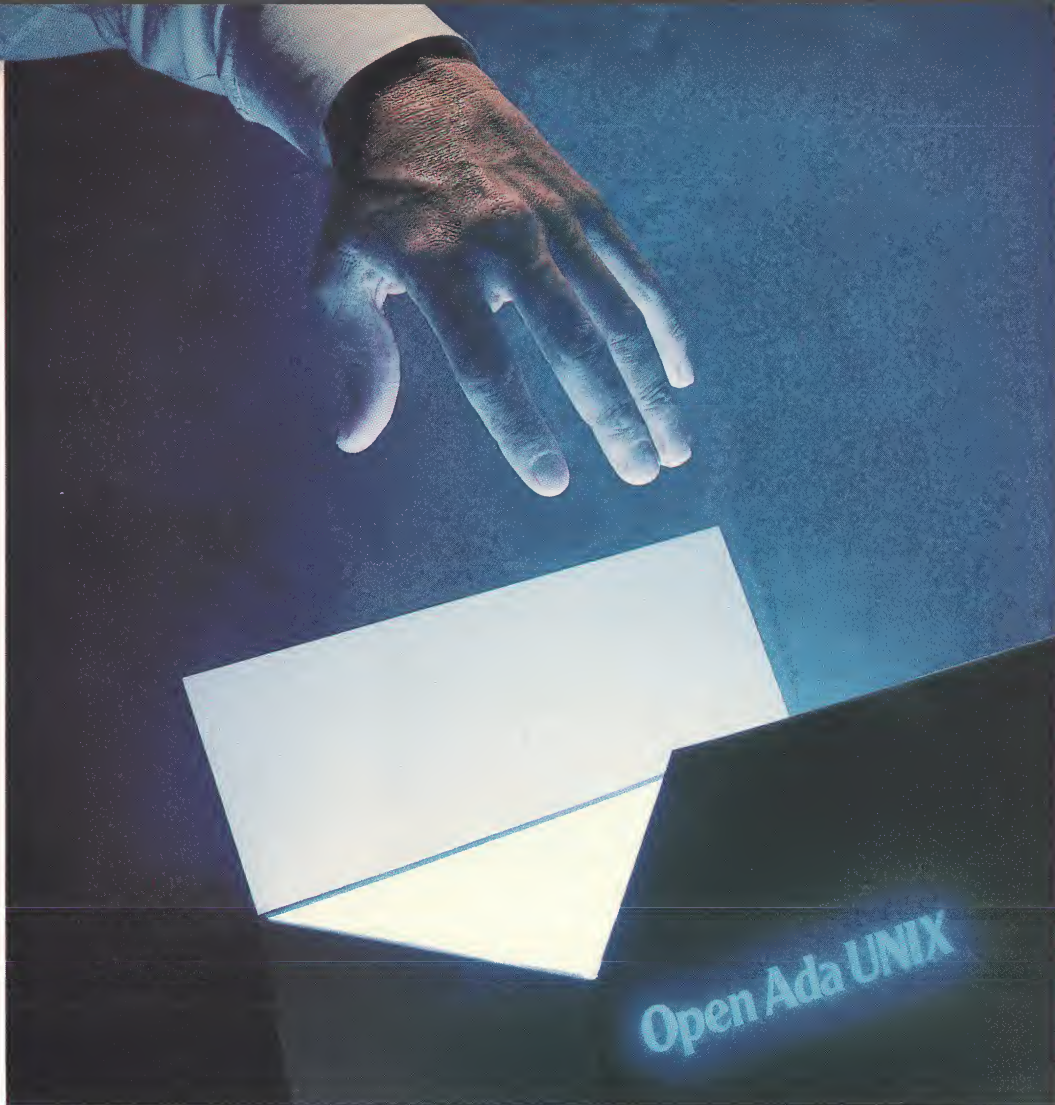
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# Introducing the application created by popular demand: Lotus 1-2-3 for UNIX System V.

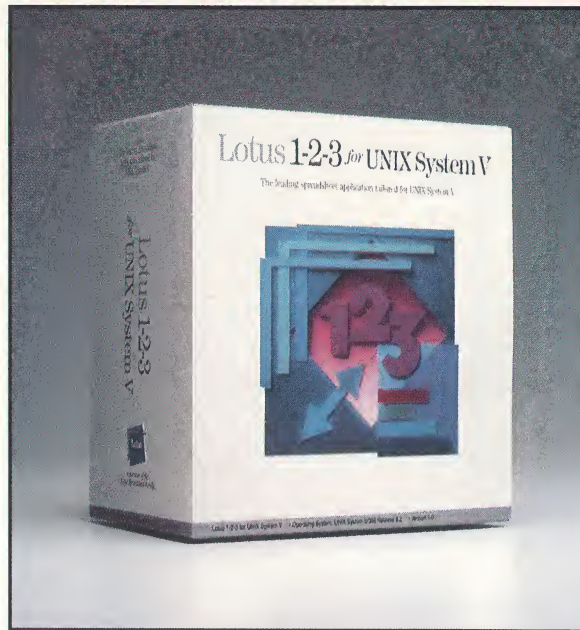
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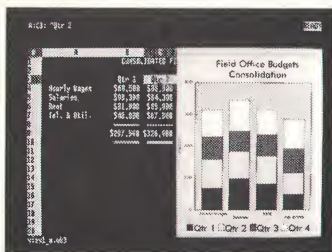
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ESIX Systems Inc.

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All features of ESIX System V/4.0 operating system package plus a complete C development environment, X Window library and Xt intrinsics, Extended Terminal Interface, Dynamic Link Libraries, on-line "MAN Pages", and Development Documentation Set.

Unlimited user version and version without Development Documentation Set available.

### Architech Workstation Developer

Interactive Systems

1614-103

1,995 1,850

Provides developer with tools to create graphics applications. Meets or exceeds security and graphics standards set by MIT, AT&T, IEEE, ANSI, and U.S. government. Unlimited user upgrade available.

Requires 386/486, 4M, 60M hard disk, mouse.

### Architech Workstation Platform

Interactive Systems

161-099

1,295 1,199

Includes Architech Network Platform and X11 Windowing System. Looking Glass graphical shell with point-and-click interface. Unlimited user upgrade available.

Requires 386/486, 4M RAM, 40M hard disk.

### Unix System V/4 Complete

Microport

691-031

1,500 1,425

Bundled distribution of certified AT&T UNIX release 4, software development tools, graphics, and networking systems. Includes all documentation for each module. SunOS, bsd 4.2 & 4.3 and XENIX compatibility. X-Windows with Open Look and Motif GUIs. Complies with POSIX, ANSI, X/Open, and FIPS standards.

Requires 80386/486 and ISA or EISA bus architecture.

### Mach386 Base Package

Mt Xinu

3990-003

1,095 995

Mach operating system kernel with BSD Tahoe Enhancements. Contains all 4.3 BSD utilities. Backward source compatibility with 4.3 BSD. Includes GNU utilities such as GEMACS, GDB, GAS, Bison, and GCC. Includes Mach specific manual pages and a full set of 4.3 BSD reference documentation.

### Unix Development System

Santa Cruz

208-093

995 895

Development system for Santa Cruz UNIX System V. Includes AT&T C compiler, Microsoft C Compiler, and Rational FORTRAN. Allows development of XENIX (OMF) binaries and UNIX (COFF) binaries. Includes CodeView interactive debugger and standard UNIX tools such as lint, adb/sdb, make, sccs, lex, yacc, and curses.

### Unix Operating System 3+ User

Santa Cruz

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Unix System V for 80386/486 ISA or EISA computers. Support for tape drives, video adapters, multiport adapters, Intel and Weitek math coprocessors, multiple disk controllers. Also available for Micro Channel computers. Minimum 4M RAM.

### XENIX 386 Development System

Santa Cruz

208-015

795 689

Microsoft C compiler and Macro Assembler with DOS and XENIX libraries for DOS cross development. Includes Computer Graphics Interface, source code control system, absolute debugger, C program checker, lex, yacc, and make utility. Unlimited user license.

Requires XENIX 386 Operating System.

### UNIX System V Release 4

UHC

3587-001

2,395 2,199

Foundation Set, Development Set, Network Set, and X-Windows System Set. Includes all basic operations, XENIX and BSD compatibility, SunOS library extensions, system administration, C compiler, RFS, NFS, TCP/IP, X11/News, OPEN LOOK and OSF/MOTIF GUIs, development utilities. With documentation, online MAN pages.

Unlimited user license.

## APPLICATIONS

### XESS

Applied Information

3977-001

595 545

X Windows spreadsheet enhanced with many engineering and scientific functions, 2-D and 3-D color graphs, curve fitting, statistics, and more. Library for linking with other programs for real-time data sharing throughout network. Point-and-click interface.

### 1-2-3 for Sun

Lotus

1917-075

995 919

Provides features of 1-2-3 Release 3 for Sun workstations and servers. Native SunView application. Uses Sun other features such as multitasking, background processing. Takes advantage of Sun Network File System services.

Price varies with Sun platforms.

### 1-2-3 for Unix System V

Lotus

1917-052

1,295 1,055

3D worksheet environment. Up to 256 worksheets per file. Relational data cont'd.

management facilities. Business graphics and presentation quality output. Supports native Unix file mode or DOS format. Retains all features of Lotus 1-2-3 Release 3. Supports SCO Unix, Xenix, AT&T Unix, and Interactive Unix, and Sun Unix.

Requires 4M RAM, 5M disk space. Ten user license.

## LIBRARIES

### Interwork/XENIX

Block Island

1442-003

279 259

C library allows developers to write programs as concurrent tasks. Number of tasks limited by available memory, low overhead per task. Inter-task communication includes shared memory, locks, semaphores, blocking queues, and events. Debugger and program behavior testing at run-time. Source code available separately.

Supports XENIX 286. Version avail. for UNIX.

### Vista Application Link

Control Data

2996-011

1,000 949

Allows 1-2-3, dBASE, Symphony, FREEFORM, and NLQ to query mainframe databases transparently from within those applications. Access is provided to Oracle, IM/DM, rdb, and flat files on CYBER, VAX, and UNIX systems. Prices vary depending on system power. This version for XENIX 386.

### Vitamin C

Creative Programming

31-018

995 945

C function library for designing screens, menus, and windows. Pop-up help manager, keyboard handler, and editor. Vendor will help install and customize code. Includes C source code and makefile to build library for virtually any Unix platform.

### GSS Graphics Development Toolkit

Graphic Software Systems

223-075

995 899

Full featured graphics package. Device independent library; drivers available for dozens of printers and display devices. Works with most popular compilers.

### OSF/Motif Development Kit

IXI Limited

3535-008

950 915

Complete set of OSF/Motif tools to allow programmers to build applications with common user interface. Includes OSF/Motif Toolkit, OSF/Motif Window Manager, User Interface Language, and documentation including the OSF/Motif Style Guide.

Available for Sun-3 and Sun-4/SPARCstations.

### Code Base 4 Portability

Sequiter Software

1174-006

495 469

Dbase file and screen management for C. Supports dBASE III, III Plus, and IV files, Clipper index files, and dBASE and Clipper memo files. Read, write, seek, enter data, use windows and build menus. Library supports R&R, dBSL, dSALVAGE. Multiuser, no royalties. Source included. Supports SCO/UNIX System V.

Supports Turbo, Quick, MS C; Zortech C++; Watcom C 386. Specify SCO UNIX or SCO XENIX.

### Essential B-Tree

South Mountain Software

42-036

399 379

Database library for C. Supports single user, multi user and network applications; single/multiple keys, fixed/variable length records, file/record locking, and floating point keys. Converts to/from dBASE III data bases.

Includes C source code. No royalties.

## LANGUAGES

### dBASE IV

Ashton-Tate

1601-064

2,495 2,395

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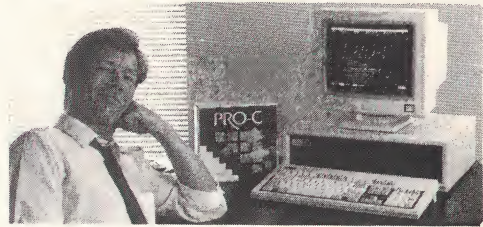
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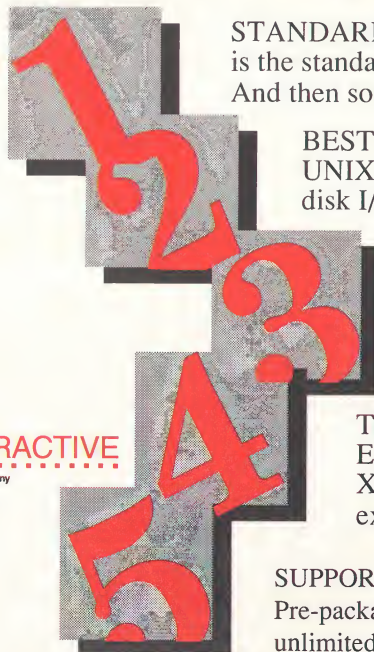


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C interpreter supports K&R and ANSI C. Full-featured source level debugging. Set breakpoints, step through execution, more.

## LPI-FORTRAN

Full implementation of FORTRAN-77 and MIL-STD-1753. New extensions for porting to lower-cost systems. Includes cross-language calling, listing options, and complete sentence error messages. Extended data types include REAL\*4, REAL\*8, INTEGER\*1, LOGICAL\*4, COMPLEX\*16. Range checking for array subscripts and substring indices.

## LPI-PASCAL

ANSI/IEEE Pascal 1983 standard; conforms to ISO/7185 Level 0. Extensions for compatibility with most Pascal types. Supports external subprograms, separate compilation of Pascal units, and listing of Pascal constructs/features that exceed standards. Variety of optimization levels and machine-dependent optimizations.

## NEW ANSI C

Full ANSI C. Provides optional compatibility with most cc command line options, allowing use of existing make files. Extensions such as structure assignment and support for void and enum data types. Includes standard libraries and header files, function prototypes, const type qualifier, compile-time string concatenation, more.

## MetaWare High C

Globally optimizing ANSI C compiler. Configurable for specific needs. Lint-like checking. Nested functions. Linkable to MetaWare Pascal and other languages. Native floating point code generation. Support for symbolic and source-level debuggers.

## C++ V2.1 Compiler Unix 386

Implementation of ANSI C and AT&T C++ 2.0. Has similar look and feel to DOS and OS/2 versions. Includes source and grep browsers, Flash Graphics library, for cross-platform development. Includes voucher for \$300 upgrade to Developers Edition with full standard library source, debugger, C++ tools.

## Professional Pascal

Optimizing Pascal compiler for Unix. Supports C-like extensions. Enhancements for system-level programming. Supports source-level debuggers. Supports cross language calling. Compatible with ANSI Standard.

## COMMUNICATIONS

### VistaCOM M/386

Communications package for async or TCP/IP connections. Supports SCO UNIX and XENIX 386. Emulation, script, and file transfer protocol to permit Unix workstations to interact and file transfer with any systems having VisaHOST, XMODEM, or KERMIT.

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Three programs: pop-up WYSE 60/ANSI/VT100 terminal emulator that allows concurrent DOS application; DOS/Unix file transfer utility; and Unix shell that emulates DOS command line while still accepting Unix commands. Emulator occupies 40K. Host Print allows a DOS application to print to any UNIX printer, port speeds up to 115K baud, VT220 emulation.

## TOOLS

### dAnalyst Gold

Buzzwords International  
Diagrammer for xBASE, Paradox, C, and C++. Multi-user converter from single user xBASE applications. X-references of variables, functions. Source code beautifier, relational screen painter and report writer, portable Video lib, C generation for popular data file handlers, 8088 and 80386 specific versions.

### Professional Editor

Buzzwords International  
Multiuser menu-driven editor. Emulate Wordstar or SideKick. Configure for C or Dbase or use as text editor. Compile while editing. Supports multiple windows, multiple open files, match pair searches, help tables, macros, and more. Includes 100,000 word dictionary.

### VEDIT+

GreenView  
Programmer's editor with integrated support for compilers, assemblers, linkers, debuggers, and Make programs. Swaps out TSRs and network drivers during compilation. All features of VEDIT plus macro language to automate repetitive editing tasks, create custom editing functions.

### CodeWatch

LPI  
Interactive, source-level debugger that supports all LPI compilers. Breakpointing allows suspension of a program execution at any source statement. Watchpoints allow monitoring of variables. Stepping allows execution of one source statement at a time. Macros can be created to customize debugger environment.

### SLICK Editor

Micro Edge  
Programmer's editor features undo/redo up to 32,767 steps, procedure tagging, multiple files up to 1G, line/block/char marks, multiple clipboard support, error message processing, concurrent process buffer, programmable file manager, typeless REXX style macro language, command completion, BRIEF/EMACS emulation.

### MKS RCS

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Enhanced version of UNIX rcs (revision control system). Controls and records revision to text or binary files such as program source files or word processor files. Handles large, complex projects. Converts SCSS and PVCS to RCS format. Network compatible.

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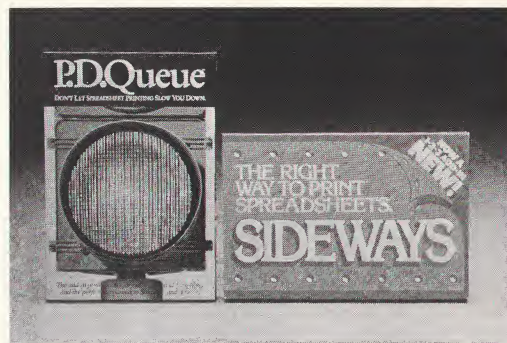
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### Hardware Requirements

Lotus 1-2-3 Release 2.0, 2.01 or 2.2 or Symphony Release 1.1 or higher.  
IBM PC or compatible computer.  
Works with any printer. Includes both 5 1/4 " and 3 1/2 " diskettes.  
\$89.00

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What do you do if your printout is too wide for your printer? Print it with SIDEWAYS. This simple to use program rotates spreadsheets and text files 90 degrees on the page, printing across perforations to give continuous output whatever your document width. SIDEWAYS runs as an add-in with 1-2-3 and symphony or as a stand alone program with any text or ASCII file.

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DOS 2.0 or higher. Requires 70k  
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## NETWORK HARDWARE

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The Software Group

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Requires ISA bus. Supports Santa Cruz UNIX or XENIX, Interactive UNIX, and AT&T UNIX.

### EtherCard Plus

Western Digital

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239

Fast, versatile Ethernet interface card, configurable to work in any system. Supports drivers for Novell, 3+Share, DECnetDOS, Sun PC-NFS, UNIX System V Version 3, and NetBIOS.

## SECURITY HARDWARE

### TotalSafe card option

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189

Comprehensive access control system. Includes boot protection with user definable password, virus protection and removal. Online data encryption encodes data files on the fly. Secure directories, screen and keyboard lockout for unattended operation, full virus protection, more.

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ATI

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V.32 full duplex protocol with V.42bis data compression for transmission throughput speeds up to 38,000bps. Compatible with MNP5 and slower 9600, 4800, 2400, and 1200bps. Features synchronous or asynchronous operation.

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Hayes

1952-016

499

419

PC based fax board. Internal fax combined with background operation brings Group III fax capability to PCs, includes Smartmodem 2400 module for complete data/fax communications communication and Smartcomm EZ software.

### 4800 SENDFAX/2400 Modem

Cardinal Technology

2949-006

249

159

Hayes compatible modem and Group III compatible send only fax. Supports CCITT and Bell standards for 4800 baud fax and 2400, 1200, and 300 baud data communications. PC/XT/AT compatible half card. Assignable COM 1-4. Software included.

### Smartmodem 2400

Hayes

1952-002

499

359

External intelligent 2400/1200/300 BPS full duplex asynchronous modem, also 2400/1200 synchronous. Auto-answer/auto-dial, Bell 103/212A and CCITT V.22/V.22bis compatible.

### PM2400 MNP

Practical Peripheral

2869-002

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2400 baud internal half-size modem with MNP level 5 operation mode. Hayes command set. Full or half duplex operation. External dipswitch for COM port selection for COM 1 - 4. External model available.

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US Robotics

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### Courier V.32

US Robotics

3094-003

995

769

External modem. CCITT V.32 compatibility at 9600, 7200, 4800 baud. CCITT V.22 bis at 2400. CCITT V.22 at 1200 and 300 baud. MNP class 5 data compression. MNP class 1 - 4 error checking. Supports AT command set.

Internal model available.

## DIAGNOSTIC HARDWARE

### KickStart II

Landmark

1943-007

599

519

Multifunction diagnostics card with ROM-based diagnostics, on-board I/O for remote operation and printer logging capability, password protected destructive tests, 8K battery-backed CMOS RAM, digital display of failed POST code. For XT, AT, 386, 486, PS/2 models 25 and 30, and compatibles.

### PostMan

Maxa Corporation

3911-004

499

439

Multifunction diagnostic card for 80x86. Dual HEX displays for POST code errors. Tests include: system, peripherals, destructive hard and floppy drive, Ethernet, Arcnet. Status displays for power supply monitoring, cont'd.

internal clocks, and bus lines. Error logging, password control, and remote operation.

### Micro 2000-1

Micro 2000

3991-002

179

175

POST card for IBM and compatibles. Includes jumper which allows diagnosis with Compaq computers. LED's indicate faulty power supply. Alpha-numeric display. Clock test for clock and bus data. Wide selection of BIOS codes.

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### ST-251-1 Disk Drive

Seagate Technologies

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429

339

5.25 inch internal half-height drive. Unformatted capacity of 51M. Formatted capacity of 42M. Standard ST412 interface. MFM recording method. Average 28ms seek time. Also available in 65M and 85M models.

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ATI Technologies

1775-001

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### VGA Wonder Plus 512K

ATI Technologies

1775-002

349

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As above, with 512K RAM. Allows up to 16 colors at 1024x768 resolution. Expandable to 1M.

### 1024 VGA by BOCA

BOCA Research

2833-014

295

219

Provides 1024x768 (16 color) VGA resolution on non-interlaced analog monitors. Backward compatible with standard VGA, EGA, CGA, Hercules, and MDA. Includes drivers for Windows, OS/2 PM, GEM, Ventura, AutoCAD, Lotus 1-2-3, WordPerfect, etc.

### The Shadow 1024

GroundHog Graphics

2871-001

399

319

1M SVGA board. 1024x768 in 256 colors. Tseng Labs ET4000 chip set. FastBIOS utility included. Analog video output and VESA feature connectors. Drivers for AutoCAD(9&10), AutoShade, Lightning Zoom, Windows 3.0, AI(8514/A), and more. Register level compatible. Lifetime warranty.

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### WD1 Barcode Wedge Reader

Computerwise

2968-001

299

269

Adds bar code input to any application. Connects between PC and keyboard. Includes wand. Also supports slot reader, laser, and mag-stripe. Options available for PS/2 and Macintosh.

### UnMouse

MicroTouch Systems

2918-001

235

219

Touch sensitive glass tablet. 3x4.5 inch active area. 1000x1000 resolution. Switch between mouse emulation and keypad. Keypad is programmable up to 64 macros. Available for PC, XT, AT, PS/2, Macintosh SE, II, and compatibles.

### Series 9 Bus Mouse

Logitech

204-022

139

100

320 dpi mouse with bus card and support software, including mouse driver, configurator, interface for Lotus 1-2-3, menu utility, and mouse-based text editor.

### Mouse w/Paintbrush & Menu

Microsoft

502-038

150

139

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2833-001

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- |                                     |                           |
|-------------------------------------|---------------------------|
| Preemptive Scheduling               | ■ Environment Independent |
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| Allows DOS to run in the foreground |                           |

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**617-628-7200**

See product listing in the LIBRARIES section



<b>OS/RAM32 0Meg</b> Capital Equipment	1486-005	299	225
Up to 8M of 32 bit high-speed memory for Micro Channel computers. Switchless installation. Software and diagnostics included. Extended and/or expanded memory. IBM approved ID. Uses 80ns SIMMS. For DOS, OS/2, and Unix. <i>Other memory configurations available.</i>			

## PEER-TO-PEER LANS

<b>Lantastic 2Mbps Adaptor</b> Artisoft	1498-006	249	219
Adaptor for LANstatic 2Mbps Starter Kit. Drive cable lengths to 1500 feet with Artisoft cable. Includes software selectable IRQ and RAMBASE address settings, 10MHz coprocessor, and 32K on-board RAM. For PC/XT/AT and compatibles. Adaptor available for the 10 Mbps Starter kit.			

<b>LANTastic AE-2 StarterKit</b> Artisoft	1498-005	699	615
Ethernet 8/16bit adapter that is 100% compliance with IEEE 802.3 and ethernet standards. On-board 16K RAM expandable to 64K. Transceiver drives thin RG-58 coaxial cable lengths up to 300 meters. Data transfer rate of 10Mbit/sec. Includes software for unltid. users but adapters for only 2 users.			

<b>LANTastic Starter Kit</b> Artisoft	1498-009	525	489
Starter kit for LANTastic network. Includes two 2Mbps adapters with software selectable IRQ and RAMBASE address, LANTastic NOS software, 15ft dual twisted pair cable, and documentation.			

<b>LANTastic Z Kit</b> Artisoft	1498-004	125	115
Interconnect two PCs via serial and parallel ports. Includes software for email, file and printer sharing, and security. Netbios compatible. 12K per workstation. Data transfer rates of 20 - 40Kbps on parallel ports and 8 - 10Kbps on serial ports. Includes cables.			

<b>PC-Interlink 4users</b> SoftWorx	2930-002	229	199
Connect up to 4 PC's to share printers, transfer files, and send messages. TSR requires only 52K. Share up to 12 printers. Includes print spooler. File transfer rate is at least 9600 baud. Has security at directory level. Work with all types of DOS based machines and attached printers.			

## UNINTERRUPTABLE POWER SUPPLIES

<b>Power Watch</b> 313R/E Ltd.	3244-001	299	259
Provides hardware and software shutdown during a power failure before the UPS batteries are exhausted. Works with any on or off-line UPS by monitoring batteries. Includes a RJ11 interface to any UPS. Saves files, exits programs, and logs off network. <i>Supports Novell and netbios networks.</i>			

<b>Model UPS 450AT</b> American Power	3186-003	399	329
Uninterruptible AC output supplied via RFI/EMI noise filter and surge suppressor. Detect and transfer time 3ms. Rating of 450VA. Output is a stepped wave with correct RMS and peak values. For standalone PCs.			

<b>Model UPS 520ES</b> American Power	3186-004	499	389
Uninterruptible AC output supplied via RFI/EMI noise filter and surge suppressor. Detect and transfer time 3ms. Rating of 520VA. Output is a stepped wave with correct RMS and peak values. For files servers and workstations. Novell tested and approved.			

<b>PowerSave 500 Plus</b> Dakota Microsystems	3317-002	359	329
Smart UPS on a plug-in card for DOS-based PC compatible systems. Saves PC RAM memory to include 386/486 extended/expanded when used with EMMPower memory management software. 2 year warranty on battery and card.			

<b>AccuCard</b> Emerson Computer	2906-006	249	209
Internal UPS for PC, XT, AT, and compatibles. Protects against DC power supply failure. Copies all system, extended, expanded, video memory, mode and status registers to hard disk. Automatically restores from hard disk. Includes AccuSaver software. Occupies only 8K RAM.			

<b>ACCUPOWER MICRO-UPS #10</b> Emerson Computer	2906-001	199	169
Uninterruptible power supply. Input current of 2.0A. Output of 150VA, 90W, and 1.25A. Output frequency is trapezoidal. Backup time is 10 minutes. 4ms transfer time. FCC class A certified. Novell tested and approved.			

<b>ACCUPOWER MICRO-UPS #30</b> Emerson Computer	2906-003	498	419
Uninterruptible power supply. Input current of 7.0A. Output of 500VA, 300W, and 4.2A. Output frequency is trapezoidal. Backup time is 10 minutes. 4ms transfer time. FCC class A certified. Novell tested and approved.			

## SERIAL PORT BOARDS

<b>DigiCHANNEL COM/4i</b> DigiBoard	1953-005	835	645
Intelligent multi-channel communications board. Provides 4 individually addressable serial ports, each with a DB-25 connector. On-board 80188 runs at 10 MHz with 256K of RAM. Drivers available for UNIX, XENIX, QNX, PC-MOS, and most other operating systems.			

<b>DigiCHANNEL PC/16i</b> DigiBoard	1953-003	1,895	1,549
Intelligent multi-channel communications board. Provides 16 individually addressable serial ports, each with a DB-25 connector. On-board 80186 runs at 12.5 MHz with 128K of RAM (up to 512K). Drivers available for UNIX, XENIX, QNX, PC-MOS, and most other operating systems.			

<b>DigiCHANNEL PC/4e</b> DigiBoard	1953-007	635	499
Intelligent multi-channel communications board. Provides 4 individually addressable serial ports, each with a DB-25 connector. On-board 80186 runs at 8 MHz with 64K of static RAM. Drivers available for UNIX, XENIX, QNX, PC-MOS, and most other operating systems.			

<b>SS-4 4 Port Serial Board</b> Maxpeed	1957-002	525	299
The Maxpeed MC-8 serial port board, with an 8-bit AT interface, 4 ports. Supports bus speeds up to 16MHz.			

<b>RTCARD</b> REALTIME CONTROL INC	2953-003	395	355
Intelligent, dual port RS232/485 serial coprocessor for PC compatibles. RTCARD permits high speed, sync, async character or SDLC-HDLS communications. Featuring 18Mhz 80C31, 85C30 quart, 8/32K RAM, DMA capability and downloadable microcode on half-size card. Includes source code for DOS, UNIX, OS/2 driver software.			

<b>ACL</b> Stargate	3111-004	775	519
Four port intelligent serial port board. Managed by 8MHz 8088-2 CPU with 8K scratch RAM and 16K dual port RAM. Supports RS-232, RS-422, and RS-485 interfaces. Includes eight 25-pin D-sub connectors for RS-232C. Interrupts are dip switch selectable and software programmable. Maximum of 38.4K baud. <i>Requires XT bus.</i>			

## VOICE BOARDS

<b>LANTastic Voice Adapter</b> Artisoft	1498-010	99	95
Digitize sound to save on disk. Full duplex operation, 8bit D/A and A/D conversion. 7990.1Hz sampling rate. 200Hz-3400Hz bandwidth. Can be used with LANTastic local area network. Voice Programmer's Interface available for developers.			

<b>Voice Program Interface</b> Artisoft	1498-011	75	75
Set of routines for interfacing to LANTastic Voice adapter. Includes routines to play, record, and more. Uses a structure called the Voice Control Block, similar to NCB or MCB in Netbios.			

<b>BigmOuth</b> Talking Technologies	2928-001	295	259
Voice mail digital recording system for IBM PC, XT, AT, and compatibles. Includes half size board, phone cables, external speaker. 8 bit sampling rate, 275-3100Hz/sec frequency response, 2.66:1 compression rate.			

<b>BigmOuth Developer</b> Talking Technologies	2928-002	369	329
BigmOuth board and TSR routines to integrate functions into custom applications. Routines accessible via software interrupts passed in AX and DX registers. Routines include play from memory, record to memory, DTMF detection, ring detect, dialing functions, speaker control, and more.			

<b>Commando</b> Talking Technologies	2928-007	139	125
Provides developers of voice processing applications with tools needed to build telecommunications applications with the Powerline II. Library supports C, Pascal, and assembler. Operates as multitasking TSR in the DOS environment.			

<b>Powerline Development Pak</b> Talking Technologies	2928-005	738	689
Powerline II board and Commando development package. Provides TSR device driver for Powerline II board. Includes routines for recording, playing, DTMF tones, and debugging utilities. Called from any language capable of generating software interrupts. Includes examples. Royalty-free.			

<b>Powerline II</b> Talking Technologies	2928-004	599	559
Multiport voice processing board for IBM PC, XT, AT, and compatibles. 2 independent dedicated channels. 2 on-board processors. Realtime compression during recording and playback. 8 bit sampling rate. Compression rates of 13-54Kbits/sec.			





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## APPLICATIONS

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2940-001

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10 module dental practice management system. Includes patient and insurance billing, electronic claims, general ledger, checking account manager, computer desktop, patient communications, custom report generator, forms, and clinical functions. Royalty free. 45,000 lines of FOXBASE+ multiuser source code.

### FOXMed ACC

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1,995 1,899

10 module medical practice management system. Includes patient and insurance billing, electronic claims, general ledger, checking account manager, computer desktop, patient communications, custom report generator, forms, and clinical functions. Royalty free. 45,000 lines of FOXBASE+ multiuser source code.

### Applause II Ashton Tate

1601-066

495 329

Business presentation software package that uses a "Window's-like" graphical user interface. Seven basic chart types can be combined and customized into a total of 37 types. Package includes eleven 16 color palettes which can produce 5000 chart colors. Other features include 400 clip art images, slide-show, mouse support.

## LANGUAGES

### Santa Fe Media Manager HSC Software

2606-009

345 329

Multimedia database for the IBM PC. Append images and sound files to database records. SVGA and TARGA 16 versions available. Standalone application. Allows graphic images to be appended to any applications. Does not require any programming or modification of current application.

### OpenAda UNIX Meridian Software

1222-020

495 475

Validated (ACVC 1.11) Ada compiler. Includes integrated compiler environment, program optimizer, make utility, source level debugger, library manager tools, and more. Supports AT&T System V UNIX.

### Image-In Scan/Paint Plus Image-In

3328-001

498 440

Provides easy, sophisticated scanning and gray-scale editing - an electronic darkroom running under Windows 3.0 with filters to soften, sharpen, blend and more. Change contrast, adjust 256 gray levels, posterize. Complete control and gray-scale and line art images.

## LIBRARIES

### SEGUE HRF Associates

5035-001

245 229

API for accessing Netware services for Bindery, Connection, Directory, File, Message, Printing, File Server, Locking and Semaphore, Transaction Tracking, and Workstation from Clipper.

### ClipSpool PowerNet

5041-003

39 39

Provides Clipper developers the ability to give users control of DOS print queue within the application. Reports are not sent to the printer, they are sent to the DOS print queue and printed as a background task. Hot key brings up a control-menu to add/change/delete print jobs. Clipper interface source code included. Clipper 5.0 and Summer '87 compatible.

### ClipText PowerNet

5041-001

89 69

Allows Clipper developers to implement true variable length fields. For use in applications with memo or large text fields, or save and restore screens. Consists of assembling language algorithms making the library fast. Clipper interface source code included. For Clipper 5.0 and Summer '87.

## TOOLS

### Stork Island Systems

1309-077

179 169

Set of CASE tools to deal with all facets of installation. Works in standard IBM text mode. Automatic checks of end-user system for running application. Uses any file compression utility. Sorts files into multiple target directories. No programming or script files required.

### ERwin/DBF Logic Works

2091-006

795 719

Logical database design and documentation. Supports entity, attribute, and relationship definition; database normalizing; document referential integrity constraints, business rules, sample data; text and graphics report printing. Generates DBase and DBF file header files. Reverse engineers DBF files.

### ERwin/ERX Logic Works

2091-007

1,795 1,649

Logical database design and documentation. Entity, attribute, and relationship definition; database normalizing; document referential integrity restraints, business rules, sample data; text and graphics report printing. Generates SQL statements. Reverse engineers SQL DDL Scripts for quick transformation to ER model.

## UTILITIES

### Ultrascript Plus PM Ware

5034-002

445 395

Prints Postscript documents on most dot matrix printers. Has same features as Ultrascript PC but includes additional fonts.

### Btrap

### OMNI Computer Services

5030-001

109 99

TSR Btrieve monitoring utility. Transparent to application programs. Intercepts operation calls specified by user and displays FCB, position block, key buffer, data buffer, and file offsets for each call. Offers hex mode. Supports 25/50 line displays. User configurable.

### DisklockPlus

### Techmar Corp.

2967-017

190 175

Has the same functions of DiskLock, but also allows access control at subdirectory level. Each subdirectory can require its own password. Multiuser possibility. Allows access to 16 different users with 16 different subdirectories. Allows switching of users without rebooting the computer.

### Desmaster Encryption (HW)

### Security Microsystem

2638-006

189 180

Half-slot data encryption card to protect against theft, corruption, or unauthorized modification. DES based. Software version available.

### Desmaster Encryption (SW)

### Security Microsystem

2638-006

50 45

Data encryption software to protect against theft, corruption, or unauthorized modification. DES based. Hardware version available.

### LOCKIT I

### Security Microsystem

2638-001

54 54

Prevents unauthorized access to data on a hard disk. Puts passwords on PC and has ability to lock hard disk if booted from disk.

### LOCKIT I Administrator

### Security Microsystem

2638-001

79 75

This version of LOCKIT I allows up to seven different passwords. One of the passwords has a higher priority than the other six, and is called the Administrator's password. Administrator can change passwords and remove LOCKIT from the computer.

### LOCKIT I Extended

### Security Microsystem

2638-001

129 120

Subdirectory protection and auditing logging are the two main features that are added to all the features of LOCKIT I Administrator to produce the LOCKIT I Extended Edition. The Administrator has the ability to designate each subdirectory on the hard disk(s) as read-only, write-only, execute-only or any combination.

### LOCKIT I Hardware

### Security Microsystem

2638-007

190 180

Combination of hardware/software system that prevents unauthorized PC access. LOCKIT I Hardware is a half-card that fits into a PC, XT, AT or PS/2 model 30 or compatible half-slot. Boot-up from a system formatted disks in a floppy drive is prevented.

### LOCKIT III

### Security Microsystem

2638-003

99 95

Secure menu system with access control, auto and manual encryption, file protection, audit trail, timed logout, and more.

### LOCKIT Professional

### Security Microsystem

2638-005

350 340

Complete hardware and software security system. All the features of Lockit I, Lockit III, realtime clock, and virus protection.

## MICROSOFT WINDOWS

### After Dark for Windows

### Berkeley Systems

2900-003

50 50

Save screen with over 35 displays - Aquatic realm, Flying Toasters, Logo, Messages, Puzzle, Randomizer, Multimodule, or create custom screen saving art. Also features password protection and sound.

### WindowsGENERATOR

### ISO FAC

3659-001

199 189

C code generator for developing user interfaces for Windows 3.0. Uses high level language which is used to specify various elements such as windows, child windows, dialog boxes, message boxes, icons, etc. Supports all memory models.

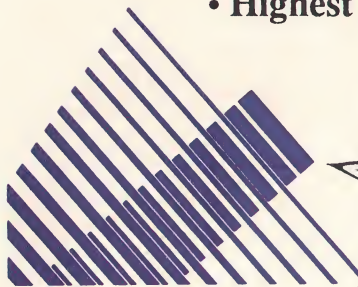
New Products



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**KPWIN DataBase Toolkit****Knowledge Garden**

1419-025

249

209

Add database capabilities to KnowledgePro Windows applications. Creates, modifies, and indexes data files in dBASE III, dBASE IV, and Clipper format. Supplied as DLL with 40+ pre-defined KnowledgePro topics. Filtering and relational capabilities are included. Supports file and record locking.

No royalties.

**XDB-Windows SDK****XDB Systems**

1010-028

750

739

SQL database engine running under Windows 3.0. XDB's SQL Engine for Windows is fully multiuser, capable of supporting multiple concurrent Windows sessions. Supports an interface for Dynamic Data Exchange (DDE). Includes C function call library and precompiler for embedded SQL in C programs. Run-time version available.

**HARDWARE****Super Cartridge 1****IQ Engineering**

3934-003

399

289

Designed for the original LaserJet as the first truly flexible all-in-one LaserJet font cartridge. It includes a wide selection of typefaces in sizes ranging from 4 to 16 points, and works on all original and series II printers.

**Super Cartridge 1E****IQ Engineering**

3934-003

499

419

Printer cartridge for HP LaserJets. Features 11 typeface families, 19 typefaces, 4 to 16 point sizes, and portrait and landscape fonts. Includes Helvetica, Times Roman, Prestige Elite, Math 8, Pi-X, Line Printer, Letter Gothic, Presentation, Courier, OCR-A, and PC-Line Draw.

**Super Cartridge 2****IQ Engineering**

3934-004

499

419

Printer cartridge for HP LaserJets. Features 8 typeface families, 17 typefaces, 4 to 30 point sizes. Includes Helvetica, Times Roman, Prestige Elite, Math 8, Line Printer, Letter Gothic, IQE Cooper Black, IQE Ribbon, and Broadway.

**Super Cartridge 3P****IQ Engineering**

3934-001

399

389

Printer cartridge for HP LaserJet III family. Features 35 Postscript fonts, 3 IQE Bonus Typefaces, and point sizes scalable from 1 to 999.75pt.

**COMLAB****REALTIME CONTROL INC**

2953-001

395

359

Capture, send, analyse sync/async RS232/422/485 serial data. Features integrated C compiler for trapping or display, editor, debugger system. Requires no cabling. Data to/from PC's disk, procedure calls, rubber-banding windows, mouse support, more. Synchronous operation or RS422/485 operation require RTCARD in Hardware section.

**BOOKS****Open Systems Management****Open Systems**

5037-001

2,000

1,849

Course for technical management and staff members for planning and implementing multi-vendor computing environments that adhere to industry-wide standards. Four units including Marketplace Perspective, Open Systems, Portability, and Application Integration and Interoperability.

**Open Systems Technical****Open Systems**

5037-002

5,000

4,445

Similar to Management course plus X/Open approach, Portability, Integration, Software Development.

**UNIX Video Workshop****Open Systems**

5037-003

2,900

2,645

Course covers all features of UNIX-including the UNIX documentation. Addresses everything needed to start using UNIX, fundamental concepts, commands, vi editor features, and Shell Programming for Bourne and C Shell. Includes ten video tapes, workbook, workdisk and Introducing the UNIX System textbook.

**Using C++****Open Systems**

5037-004

6,500

5,995

Provides a skills building program for C++. Course outline includes Introduction to Object oriented programming, transition from conventional languages, classes using encapsulation, data abstraction, inheritance, polymorphism, multiple inheritance, C++ efficiencies.

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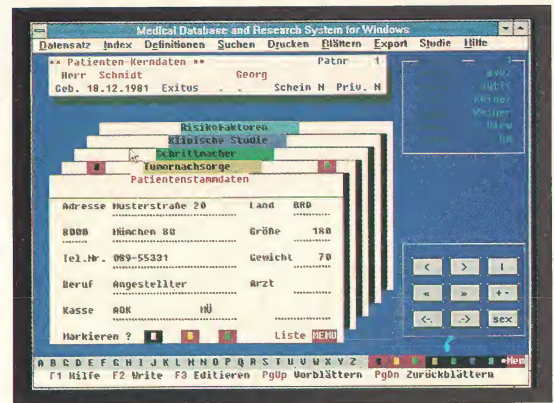
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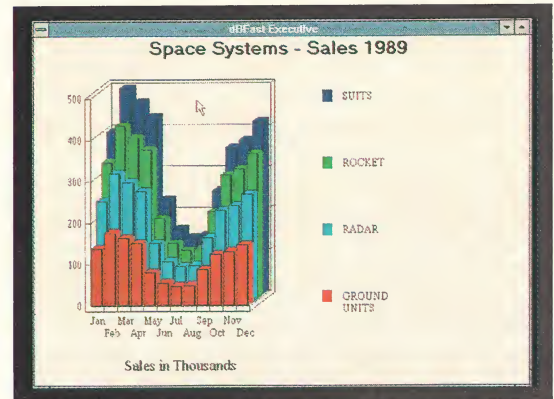
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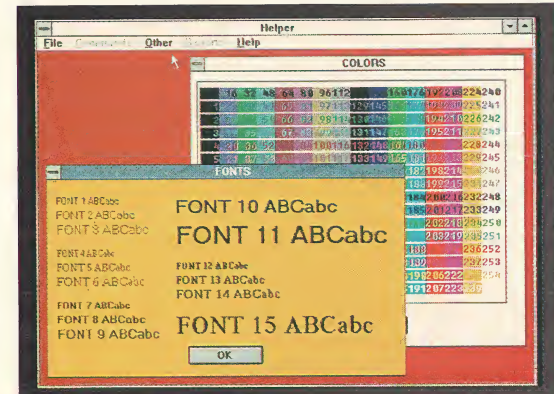
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